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OTOLARYNGOLOGY

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FIFTIETH ANNUAL SESSION

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OCTOBER, 1945

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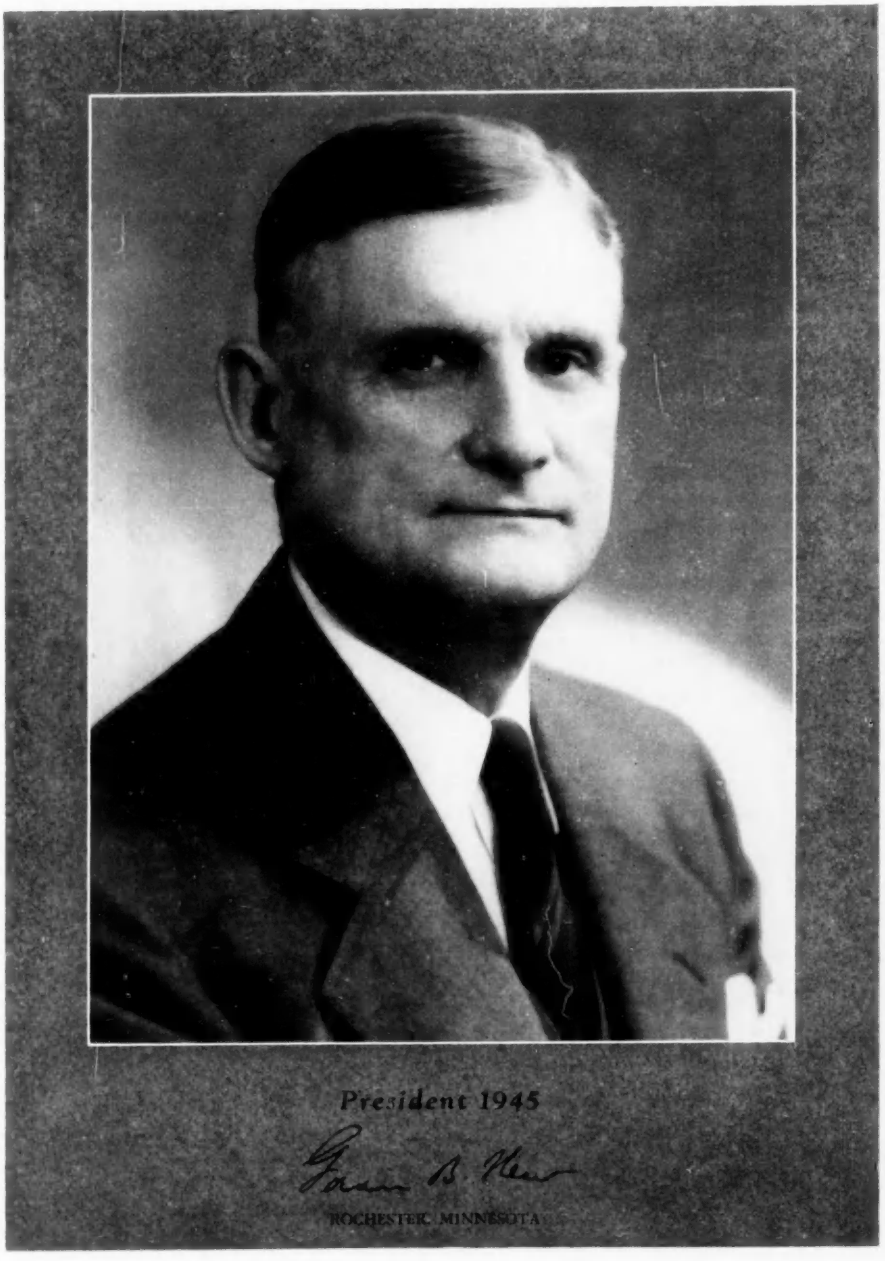

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Address of the President

THE FIFTIETH ANNIVERSARY OF THE ACADEMY

GORDON B. NEW, M.D.
ROCHESTER, MINNESOTA

THE American Academy of Ophthalmology and Otolaryngology is fifty years old. This is an event which should be commemorated by an appropriate celebration. Instead, the entire 1945 meeting of our organization has been cancelled in response to directives by the Office of Defense Transportation. This is indeed regrettable. However, the critical need by the armed forces for train, air, bus and hotel accommodations during the present phase of redeployment is evident to all. Consequently, under these circumstances the Academy willingly gave up its assembly this year to aid our government in the task of successfully concluding the war with Japan.

For the observance of the fiftieth anniversary of the Academy, the program committee and the board of secretaries had contemplated and organized a wonderful program. Our executive secretary, Dr. Benedict, informed me that both scientific and commercial exhibitors requested more space this year than they had on any previous occasion; this, in itself, is an indication of the enthusiastic interest which would have pervaded the meeting. Because the meeting of the Pan-American Congress of Otolaryngology was scheduled to follow the session of the Academy, we would have had the distinct pleasure and opportunity of welcoming our distinguished South American friends and colleagues. Finally, it was hoped that the entire occasion would be honored by the presence of Dr. Hal Foster of Kansas City who founded the society. This meeting, I am sure, would have been very stimulating; its abolishment was disappointing.

An anniversary is an occasion for deliberation. In reflecting on the progress of the American Academy of Ophthalmology and Otolaryngology during the past fifty years, one cannot help being impressed by the tremendous strides which this organization has taken since Dr. Foster called the first meeting to order in April, 1896. From the small group of physicians who attended this first assembly, the society has grown to a body of over 3,700 members, many of whom are natives of Canada, the West Indies, and Central and South America. On critically analyzing the various activities of the Academy during its fifty years of existence, I am sure that all of you will agree with me that its most significant contribution has been one of education. It is true that almost every scientific organization such as this is founded for but one purpose, that of disseminating knowledge; it is an arrangement whereby men with like interests get together for an interchange of ideas. Such was the original intent of Dr. Foster in organizing the Academy. However, few societies have had the farsighted and necessary co-operation of its members to permit the development of a broad and useful instructional program. The fact that our society today represents one of the greatest educational projects in the world for the benefit of eye, ear, nose and throat specialists should be gratifying to all of us and must be a source of enduring satisfaction to Dr. Foster.

At its annual conventions, the Academy provides its members with the latest research and clinical studies and other scientific knowledge on every conceivable phase of ophthalmology and otolaryngology by means of lectures, motion pictures, clinics, instructional courses and exhibits. Throughout the

year other educational features are carried on through home study courses. Particularly commendable is the practice of helping trained men to prepare for their Board examinations. Such help consists in home study courses, rental material and group lectures made available through the offices of the Academy.

Motion pictures extend a form of visual education which is becoming an extremely popular part of the Academy's annual program. Far from being merely a kind of entertainment, motion pictures offer one of the most effective means of disseminating medical knowledge. Recently, there has been an increasing demand for sound pictures, and no one can deny that they make possible a clear, concise and comprehensive description of the subject depicted. In the years to come, as sound motion pictures dealing with medical subjects are perfected it is likely that they will take the place of our present-day silent films. However, motion pictures which are accompanied by long uninterrupted monologues are frequently tiresome. I do not believe that they can completely supplant the need of a personal appearance by the author. Not only are his remarks desirable from the standpoint of clarifying the picture but his presence on the platform and his interpolated remarks tend to hold the attention of the audience. Furthermore, his presence is desirable when case questions arise. Consequently, I strongly favor the author's presence even when "sound" motion pictures are being shown at the Academy.

I believe that every member should become acquainted with and take advantage of the educational activities of the Academy. All will agree that education should not be a terminable process. Graduation from professional school, specialized training and certification by a specialty board do not constitute the final phase in schooling of any first-class practitioner of medicine. For those to whom these represent the climax of all educational efforts, bias, limitations, loss of curiosity and disinterest in their work ultimately ensue. I have never seen a prominent physician with a lively interest in his job who did not maintain his academic habits of study throughout his active career and who did not avail himself of every opportunity to attend local and national medical meetings. The busy practitioner finds that the only facilities which generally are available for furthering his education are reading and attending meetings.

Reading material in ophthalmology and otolaryngology is abundant; however, no amount of reading can supplant completely the stimulating power of a large and well organized meeting. Here two factors are in effect: first, a direct informative one brought about by hearing a lecture, by assimilating an instructional course or by seeing a moving picture or exhibit; and second, an indirect, involuntary or unconscious influence which is not definable but is actively stimulating. I do not know how we can trace or measure this unconscious influence but it is very definite. I never come away from a meeting of the American Academy without a feeling of increased interest in my own work and an urge to try new methods or new technics. All of you must have experienced this same influence after attending any large scientific assembly. Something is gained at such meetings that is never obtained through reading.

Other profitable experiences to be derived from attendance at good medical meetings are the development of new friendships and the dissolution of many prejudices. R. W. Sockman once said, "Prejudice is a sin which every one denounces and almost no one seriously confesses." Whether or not we wish to acknowledge our own prejudices, it is certain that most of us do possess some conscious or unconscious prejudices relating to medical matters. It is also certain that prejudice is one of the most se-

rious factors of impediment of the progress of medicine. I believe that nothing tends to dissolve prejudices as quickly as attendance at medical meetings and exchange of opinions with our fellow doctors. When we are free of prejudices, we are capable of analyzing the experiences of others with reason rather than emotion, and often we find that their ideas can be interrelated with our own to advantage. Consequently, it always is worth while to attend well planned medical meetings and to attend them with an open mind.

Thus far, I have considered the educational program which has been developed by the Academy during its first fifty years of existence and have endeavored to describe briefly the direct and indirect value of meetings and instructional facilities. The probable contributions of the Academy as a teaching organization in the future remain to be examined. War usually disturbs the plans of individuals singly and collectively, and quite naturally war can be expected to alter the prospective activities of the Academy. Since we cannot predict future developments with any degree of certainty, we can only hope that the alterations will be constructive. When we are mindful of the fact that the present war is the most destructive force to life and property that has ever existed we wonder how anything beneficial can come out of this whole catastrophe. However, due to the stimulus of the war more intensive medical investigation was executed by more eminent civilian and military scientists than was done before in the whole history of medical progress. The great contributions made by these capable men and the genuine usefulness of such contributions are becoming more and more apparent.

By way of illustration, Maj. Gen. Norman T. Kirk, Surgeon General of the United States Army, recently stated that the sulfa drugs and penicillin have cut the pneumonia death rate in the army from 24 to 6 per cent. Incidence of malaria has been reduced to a quarter of its incidence in the earlier part of the war. Through the effective use of sulfa drugs, the mortality rate in meningitis has been reduced from 34 to 4 per cent. The soldier death rate after hospitalization in World War I was about two and a half times what it is in this war.

These interesting statistical examples serve to illustrate what is being accomplished by the medical departments of the armed forces. These accomplishments are advantageous not only to the prosecution of the war but to all mankind for generations to come. A great wealth of new medical information relative to the fields of ophthalmology and otolaryngology already is available for presentation by members of the armed forces and much more will be ready in the near future. Many clinical and research problems now being studied in civilian and military institutions will require years of intensive investigation before the answers can be presented to the medical profession. Consequently, it is clear that the Academy meetings in the next few years undoubtedly will be the most interesting and instructive sessions that it has been our privilege to attend. I look forward to these assemblies with interest and enthusiasm.

The success or failure of any medical society or similar scientific body is merely a reflection of the interest and labors of its members. The outstanding accomplishments of the Academy in the past represent the energetic efforts of those individuals who have given their time so freely to the organization. To them we are sincerely grateful. In the future, with all of the new material which will be available for presentation, the educational program of the Academy should become increasingly beneficial. Our fiftieth anniversary seems a fitting time for all of us to acknowledge past benefits and to make a new pledge of loyalty to our society, the American Academy of Ophthalmology and Otolaryngology.

Jackson Memorial Lecture

GRADUATE TRAINING IN OPHTHALMOLOGY

HARRY S. GRADLE, M.D.
CHICAGO, ILLINOIS

It would seem most fitting and proper that the subject of the Jackson Memorial Lecture should pertain to the question of ophthalmic education, a topic most dear to the heart of Dr. Edward Jackson. He himself lived through the era of the development of modern training, for in his early days organized teaching was non-existent in the United States. He saw the vicissitudes and struggles of the early aspirant for ophthalmic training, and he saw the gradual emergence of ordered American ophthalmology from the chaos of the last century.

Before the turn of the century, there was no formalized training in ophthalmology in the United States. True it is that many a good ophthalmologist was developed during those days, but it was by preceptorship, in the more or less haphazard clinics of that day, or in private offices, supplemented by personal nonsupervised reading. The amount of training that a man could obtain depended upon his personal energy and ambition. The more fortunate journeyed to Europe, to the clinics of Vienna, Berlin, Paris, and London. In many instances they were lucky enough to obtain volunteer assistantships for one or more years, but in the majority of cases they merely observed the work as it was performed by the regular personnel of the clinic. These clinics were fairly well organized, and the native men obtained their training in ophthalmology by serving as assistants for five to ten years. But still there was no formalized course of training in ophthalmology, here or elsewhere.

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The foreign study and the influence of the foreign clinics became manifest here about 1900. In many of the large cities ophthalmic clinics had been in operation for thirty or even forty years, but they were not well organized, and the majority required assistantships or internships in both Eye, and Ear, Nose and Throat. In fact, in practically all of the universities those chairs were combined, as they were in the clinics. But the spirit of ophthalmology was becoming apparent in the rank and file, and that spirit demanded adequate didactic and clinical facilities for its expression. Nor could that spirit be denied, and during the next fifteen years the development of ophthalmic clinics and ophthalmic residencies progressed with startling rapidity. Ophthalmology became divorced from otolaryngology and succeeded in freeing itself from the dominating influence of its big brother, general surgery, so that the chair of ophthalmology in the medical schools became a separate entity. But still there was no formalized training in ophthalmology.

Then came the advent of the American Board of Ophthalmology, formed jointly by the three national societies, for the purpose of introducing standards into the training and practice of the specialty. Some years elapsed before the Board realized its importance, and formulated its aims, but almost overnight its educational influence became manifest. The requirements set up tentatively by the Board gave the ophthalmological candidates a definite idea as to the course of study necessary to pursue; an idea that in the past had been a mere will-o'-the-wisp. They perceived the goal of a completely

rounded ophthalmological education, and, although formalized and supervised training was still lacking, they were able by industrious reading to form a fairly solid foundation upon which to build a clinical training.

Gradually, formalized training began to make its appearance here and there. In one clinic a course of lectures would be given upon basic subjects, while in another the clinical aspects were treated didactically as well as practically. A postgraduate school developed a course of training in ophthalmology in which didactic and laboratory work were given simultaneously with some clinical training. And so under the influence of the Board the progress has been continuous, and throughout the country more and more opportunities are being developed for serious training in ophthalmology; training that will fit a man to become a safe and sound specialist, upon whom his people and his colleagues can rely.

Still the opportunities for formalized training in ophthalmology are below the nation's requirements. It has been estimated that a minimum of two hundred ophthalmologists a year are required to maintain the present quota; but it is also agreed that the present number of qualified ophthalmologists, certificated or otherwise, is far below the number required by the population of the United States. At present the opportunities for thorough training in ophthalmology, basic, didactic and clinical, number about one-quarter of the requirements. Another half obtain training through clinical residencies, but without basic or didactic instruction. The remainder pick up what they can.

To the American Board of Ophthalmology is due unstinted praise for its efforts and accomplishments. But the Board is everchanging, and, although universally recognized, it has no authoritative standing or academic backing. So it would seem that the time has come to incorporate the achievements and work of the Board into such form as to insure perpetuity for the ideals and accomplishments that have done so much to advance ophthalmology in this country. Such solidarity can be attained only through academic connections, and to that end it would seem fitting and proper that the gap that exists between requirements for graduation from the medical school and the certification by the American Board of Ophthalmology, be filled by the university. Upon the university should fall the responsibility for formalized training in ophthalmology for a sufficient number to fill the needs of the country.

In general formalized education in the universities is held at two main levels: the undergraduate school culminating in a Bachelor's degree, and the graduate school culminating in a Doctor's degree. Above that level the universities offer training only on a research or a personalized basis.

During the past years the need has arisen for a third level of university training, particularly as it pertains to medicine and the medical specialties. This level should cover the period between completion of the general internship and the completion of training required by the specialty boards. That period of training, which in the majority of cases is now more or less haphazard, is definitely a function of the universities, and when assumed by them will take on a systematized character more or less standardized, as is the present work in the undergraduate medical schools.

The gap that exists between the completion of the interne year and the attainment of the certificate of the Board, is at present the major deficit in ophthalmic education, and there is no uniformity in the endeavors of the various institutions to fill that gap. One offers a one-year clinical residency without didactic training in any of the basic sciences; another considers a two-year clinical residency with a minimum of

basic science training sufficient; while at the other end, is the five-year residency with complete and adequate basic training. Because of the chaos that exists under the present system, or lack of system, it is very evident that the gap should be filled under university jurisdiction and that a certain degree of uniformity in ophthalmic training on a nation-wide basis should be introduced. Regimentation should of course be avoided, but a formalized curriculum could serve as a basis for training which would be varied in the universities and their associated institutions according to existent facilities.

Let us see how such a plan might function in our own specialty of ophthalmology, a specialty which is probably best prepared to institute a regular university program of graduate teaching.

It must not be forgotten that there are two classes of men who demand training in ophthalmology: those who intend to pursue an academic career of investigation or teaching, and those who intend to devote themselves to the clinical practice of ophthalmology. The first group is small in number and can be handled adequately by each institution as the case arises, and consequently requires but scant attention here. The second group outnumbers the former by a hundred to one, and hence requires more intensive study and more extensive facilities. To that group are dedicated the following pages.

Before acceptance of a student into the training realms of ophthalmology, rather extensive psychological and psychometric tests are in order, to prove the fitness of the candidate for the specialty. Included should be tests for manual dexterity, the sina qua non of an ophthalmic surgeon. Good vision, normal color perception, and perfect stereopsis are even more essential to the art of eye surgery than they are to the piloting of an airplane.

Upon completion of the general interne year, a period of instruction in the basic sciences so requisite to a rounded ophthalmologist, should follow. It should be given within the university walls and be operated as a regular class of the medical school. The length of time would of course vary with different institutions, but in no case should it be less than three months nor more than six. The course should be an elaboration into detail of the basic sciences of ophthalmology as taught to the undergraduate medical student, and to that end would require a mixed faculty. The general aspects of anatomy, physiology, optics, chemistry, and bacteriology should be presented by the undergraduate teachers of those subjects in the undergraduate laboratories, whereas the application of those subjects in the realm of ophthalmology should be presented by clinical ophthalmologists who have devoted special attention to those sciences. Lectures should play but little role in such instruction, and the major pedagogical methods should be those of laboratory demonstrations and directed conferences and quizzes. The study of pathological anatomy should be instituted toward the end of such basic course as there should be no contemplation of clinical ophthalmology until after conclusion of the basic course.

The candidates are then ready to enter the period of clinical training which should be not less than two years. Obviously the university hospitals cannot accommodate the total number, and extramural expansion is necessary. That can be accomplished by bringing into the fold such nearby general hospitals as offer an adequate residency in clinical ophthalmology, and supplementing that clinical work with university instruction. For example, there are in Chicago six large general hospitals that have clinical residencies in ophthalmology of one year each, one man at a time. These should take two residents

for two years each, staggered so as to provide a senior and a junior, who have gone through the basic course at the university. The university hospitals in Chicago can take eight residents per year, with the result that each basic course would have twenty candidates.

No matter whether the resident was serving in the university or an affiliated hospital, the instruction should be the same, and should be given in the early evening after the clinical work for the day is finished. At least once, and preferably twice, a week the group should assemble at the university for clinical or pathological conferences or seminars. For such conferences, held under the direction of experienced clinical teachers, a two-year program should be prepared in advance, and the junior group and the senior group should be kept separate; otherwise one year would be merely a repetition of the preceding. At each conference the prescribed reading for the next conference should be given, and thus each resident could prepare himself in advance. The conferences and seminars should embrace the clinical aspects of ophthalmology from beginning to end, borderline topics, the relationship of ophthalmology to other medical specialties, and social and preventive ophthalmology. Pathological conferences should be held at least once a week under the ophthalmic pathologist, and each resident should be given prepared sections and clinical histories of cases, upon which he should present a prepared report at later conferences. Those studies should continue uninterruptedly throughout the entire two years of clinical residency.

Upon conclusion of the two years' clinical residency with its associated factors, a comprehensive oral and clinical examination should be given the residents by the combined staffs of the university and affiliated hospitals, including demonstrations of surgical ability upon animals and patients. Successful completion of such examination should entitle the resident to a higher degree, possibly Doctor of Science in Ophthalmology, and the automatic award of the certificate of the American Board of Ophthalmology, whose examinations would then be confined to men whose training had been other than the prescribed university course.

Now let us see what this would do for the training program on a nationwide basis. As of December, 1941, there were opportunities for approximately one hundred and eighty men to be trained each year in ophthalmology, of whom about one-third received adequate basic and didactic instruction, the remainder receiving clinical training only. Under the proposed plan, at least thirty-five of the Class A medical schools could, and probably would participate, taking in a class of ten to twenty men each year. That would mean four hundred to seven hundred men adequately trained in ophthalmology each year, as contrasted with the figure just quoted. Of the 3500 or more approved hospitals in the United States, sufficient clinical residencies in ophthalmology can be developed to take care of the extra-mural aspects of the program.

Approval of this plan by the American Board of Ophthalmology and by the various teaching institutions could lead to an early establishment of this, or some similar system. The University of Illinois has authorized the Department of Ophthalmology to set this plan into operation as soon as the teaching members of the ophthalmic staff are released from military service and full ophthalmic residencies are again functioning. Thus it becomes very possible that within the course of a few years, there may be attained the adequate formalized training in ophthalmology of numbers sufficient to supply the needs of the country, fulfilling the hopes of our great teacher, the late Edward Jackson.

Wherry Memorial Lecture

DR. WHERRY AND THE EDUCATION OF THE SPECIALIST IN OTOLARYNGOLOGY

HARRIS P. MOSHER, M.D.
MARBLEHEAD, MASS.

DR. HAL FOSTER, who bears the proud title of Father of the Academy, must feel today that fifty years ago he really started something. I am afraid that none of us here did anything much worth while as far back as that distant date. It is for others to state what the society was when Dr. William P. Wherry took it over, that is, when he became Secretary, and to record what it is now. Speaking of Massachusetts, Webster in his stentorian oratory said, "Massachusetts, there she stands." This sentence might be paraphrased to read, "The Academy, there she stands." Dr. John L. Myers goes a bit farther, saying, "Since '27, Dr. Wherry was the Academy."

I have lived behind the scenes somewhat, as all of us have who have had official positions in the Academy. By so doing, one sees the preparations for the play, sees the setting up of the scenery, and realizes the amount of work which precedes the public performance of an Academy meeting.

The Academy is anything but an armchair society. It is the most virile of any society I belong to. To quote from a radio advertisement, it is "full of cowboy energy."

Dr. Wherry spent his whole professional life in Omaha, a city which has the proud distinction of having been a way station for the caravans of covered wagons as they made their painful and historic pilgrimages to open up the West.

After two warnings of a failing heart he had a third attack and died at the age of 62 in the full flower of his ability, thus escaping nature's cruelest infliction, old age. It seems almost as if his death occurred only yesterday, but it was three years last June.

Today the Academy is host to the spirit and memory of Dr. Wherry. It is the part of a tactful host to bring out the best in his guest. It is a pleasant and easy task to do this for Dr. Wherry.

It has just been said that since '27 Dr. Wherry was the Academy. This is rhetorical and a bit unfair to those who worked with and under him, but it is in a large measure true. He had his faults, even as you and I, and they paralleled yours and mine. It is the fashion of present day historians in describing their characters to strive for disillusionment. I am not that modern.

The purpose of this paper is to emphasize the important part played by Dr. Wherry in bettering the education of the otolaryngologist. Two minor subjects are touched upon. First, Dr. Wherry's dramatic youth. A few paragraphs on this subject begin the paper. Second, about the middle of the paper under the heading of "Side Lights," a few paragraphs occur which are written in a lighter vein. The latter, though light in tone, have, I hope, their human appeal.

Life was hard for Dr. Wherry in his youth. His father died when he was so young that he never remembered him, and his mother when he was 6. Then he lived with a married sister. He early had to fend for himself. Early, also, he began to show his self-reliance by selling peanuts in a travelling troupe which

toured under the intriguing name of "Cornell Concert Company Under Canvas." His spirit of leadership showed itself thus early by leading the pre-performance parade clad in a bright scarlet coat and proudly carrying the official banner of the company. It brings a warm glow to me and I hope it does to others of my listeners, to picture him in this, his first act of leadership. Next, after the Concert Company, came earning money by carrying a paper route. Then he began, I do not know the date, trading in stamps and paid his way through medical school in this way. He became a well known collector, and at one time was president of a national stamp society. While in medical school he was business manager for the school paper. This became so prosperous through the advertising which he secured that the authorities felt they had to stop it. It probably earned more money than the salaries of any of the faculty. Here for once his talent for salesmanship got him into trouble. He was fond of music. His uncle was an opera singer and the troupe which he travelled with featured Gilbert and Sullivan. At school, Dr. Wherry got fame as a dancer. He retained his grace in this art, and I often wondered as I watched him how he did it in spite of his rather ponderous body.

I will end these snapshots of his early life by recalling his testing of railroad signals by making observations while riding on the cow catcher of an engine. This dramatic bit of research turned out to be useful and somewhat revolutionary. Throughout life, he always loved an engine. Even these few incidents give many hints of the boy as father of the man.

One at first thinks of Dr. Wherry only as an organizer, an administrator and an expert salesman of medical ideas, but he had a deeper side, namely a lifelong interest in the welfare, the proficiency, and adequate education of the otolaryngologist. He wrote but few papers. He was neither a laboratory nor a research man.

He was anything but an amateur in medical politics and was continually in the thick of things. I got a hint of one special activity when he was president of the Nebraska State Medical Society, which was one of his last honors. In order to break a tie vote in the state legislature on an objectionable medical bill, he brought such pressure on the chief advocate of the bill that he was forced to take an overnight plane out of town, and the bill was defeated. I got from Dr. Wherry only this bare statement of what happened, but always wished that I had heard the full details. Had Dr. Wherry been a New Dealer, he surely would have been in President Roosevelt's cabinet.

At this point I will add a bit of unpublished history. Before the First World War, the American Laryngological Association had a standing committee on the education of the laryngologist, but nothing concrete was accomplished. Dr. D. J. Gibb Wishart was its chairman. Soon the war broke, and during that time a school of instruction for ophthalmologists and otolaryngologists was established at Oglethorpe. It had the dreary and hopeless job of instructing the self-styled specialists who flocked into the service. Dr. Thomas J. Harris, Dr. Secord H. Large, and Dr. Frederick T. Hill slaved valiantly here, as did Dr. Meyer Wiener.

It turned out to be another case of love's labor lost. You probably remember the story of Dr. George L. deSchweinitz's inspection trip to the school. After talking with one of the men attending the classes, he burst out with "Sir, by what possible stretch of the imagination do you call yourself a specialist?" And he probably added a little of his best and customary profanity. Speaking of Dr. deSchweinitz, can

you believe that he ever called me his "buddy"? He did. I think that I am alone in this honor.

In the present war the question came up of starting a similar Army school. My advice was being asked in those early days, and I advised against it.

The American Board for Ophthalmic Examinations was formed in 1916. Seven years later—why so long afterwards I never knew—the otolaryngologists got their eyes open and started their Board. For about ten years these two Boards functioned in splendid isolation. When the other Boards began to be formed, and their numbers became alarming, the American Medical Association realized what was going on, and this benevolent octopus put out one of its many tentacles to gain control of the Boards. In order to keep the Boards self-governing, Dr. Wherry, Dr. Burt R. Shurly, and I suggested the formation of an Advisory Board to consist of the two ranking officers of the various Boards. Such a Board was formed, as you know, and has played an important part in shaping the policies of all the Boards ever since. I am revealing no secret when I say that it has had to be reminded from time to time to keep its activities purely advisory. From the organization of the Advisory Board until Dr. Wherry's death, he was Vice President, and was constructively active in all its deliberations.

I now come to the main topic of this paper which is the part which Dr. Wherry played in improving the facilities for the education of the otolaryngologist. The Academy was the chief medium he used in trying to bring this about. Naturally, he worked also through the American Board of Otolaryngology. In the Academy he accomplished much through the courses of instruction. These are the outstanding achievements of the Academy and have set it apart and above all other special societies. Most medical papers given before medical meetings have only an ephemeral value. The instruction courses of the Academy, on the other hand, have a continuing value. They might be compared to the cosmic rays, their influence spreads so far.

When I gave an instruction hour, I was always greatly indebted to Dr. Dean M. Lierle for a set of accessories which was always complete. Dr. A. D. Ruedemann did a similar and equal service for the ophthalmologists. When I read a paper before the whole society I was equally indebted to Dr. Myers. I always knew beforehand that the microphone and lantern would work. He never seemed happier than in doing this behind-the-scenes job. What he did for me he did for others year after year, for many years. I shall never feel quite comfortable without him.

Speaking of the instruction courses Dr. Wherry can be given credit only for recognizing their value and for sponsoring them by Academy backing. To Dr. Lierle and Dr. Ruedemann should go the credit for their present day success as they choose the subjects of the lectures and the men who give them, cutting out the too blatant self-advertiser, and the repeater when he has overstayed his market. By the way, Dr. Lierle recently did this to me.

A good administrator must have the ability to pick good men as assistants. Dr. Wherry seldom made a poor choice. He certainly did not in Dr. Myers, Dr. Ruedemann, Dr. Lierle and, last but not least, in Miss Clare McGovern.

The examinations of the American Board of Otolaryngology are a means of eliminating the self-styled specialist and giving the hall-mark of efficiency to successful candidates. Dr. Wherry constantly sought to improve the examinations of the Board and to improve the examiners themselves. He had a mathematical bent, and at one time made a graph of the efficiency of the various ex-

aminers. This took the conceit out of many of us. I know it dulled mine.

One of his most fundamental problems and one which worried him to the end was the lack of adequate facilities for training otolaryngologists. He knew only too well that there were very few hospitals which really gave a full and fundamental training in the specialty. What many hospitals offer on paper he took as window dressing. One of the last acts of his life was to get the American Laryngological Association to appoint a committee to consider this problem. The committee lived two years but got nowhere. I was its chairman. Perhaps that was the reason.

If I remember rightly my conversations with Dr. Wherry about Dr. Harry S. Gradle's brain child, the Home Study Course sponsored by the Academy, it did not appeal to him very much at first. He was, of course, in favor of anything which promised to help in the instruction of the beginning specialist. Later he felt that the course was a success. I also was doubtful about its usefulness, but have been convinced, a bit slowly perhaps, that it is a success and in great measure accomplishes its purpose. It has proved to be good psychology. The men who take the course feel that at least they are being given some leadership. We all like to have things planned for us. We rail at regimentation but there is more good in it than we publicly admit.

The course has meant much work for those behind it and they should be given full credit. One of the old and fully true sayings is that all education is self-education if it really is education. Let me add that learning stops when curiosity dies. All altruistic attempts to be your brother's keeper by making possible graduate and adult extension courses, both of which are being featured so much today, accomplish little or nothing unless the individual who is enticed into them has an inborn restlessness to learn. Unless a horse is thirsty he will not drink. Many students need a dose of cerebral salt. It is a great pity that after childhood, we take the universe with such cow-like complacency and lose our first glorious sense of wonder.

The next four or five paragraphs might be grouped under the headline "Side Lights on Dr. Wherry."

Few of us who have not been behind the scene realize the great amount of preparatory work leading up to an Academy meeting, or of the work during and after a meeting. Dr. Wherry actually seemed to glory in it and to thrive on it. A tenth of the work which he did year after year would have killed most of us had fate or circumstance or misguided ambition put any of us in his place. The mechanics and stage craft and management of academy meetings always excited my wonder and admiration.

Dr. Wherry's dealings with the various hotel managers always thrilled me. In the early days some of these must have been of the nature of encounters, but not as I saw them. Of late years he had the whip hand and was a preferred customer. The Academy business meant many thousands of dollars to the hotel where the meeting was held. The phrase "owning the hotel" certainly applied to Dr. Wherry.

Anyone who by seniority or merit became the President of the Academy was made to feel for the moment, at least, as if he were the center of the universe. This was part of Dr. Wherry's art of handling men. As president, you were surrounded by every luxury which the hotel could offer, beginning with the assignment to the hotel bridal suite. You felt that you had been elevated to royalty with the flowers and fruit which came to your rooms daily. I confess that when my turn came to be president, I was a bit embarrassed by the unwonted luxury of it all, especially when my suite had a

bathtub as iridescent as the body of a mermaid, and towels which rivalled the colors of the rainbow. While you are living in such luxury is a good time to have your relatives visit you and get a new idea of your importance.

Assigning the spaces for the commercial exhibits was often a case of headache to Dr. Wherry. All the exhibitors naturally wanted the best places, and if they applied early enough, and were willing to pay enough, they got them. All of them insisted that the exhibit room should be in the line of travel to and from the main meeting room. This was what they paid their money for. The arrangement at the Palmer House as finally worked out was ideal. No one could get to the lecture hall, or away from it, without going by the exhibits. No mouse trap was ever more cleverly designed.

Dr. Wherry was greatly proud of being invited to the annual dinners of the American Association of Medical School Deans. He came from these dripping with the latest wrinkles in medical education. Once he brought a new method of marking examinations, and had the American Board of Otolaryngology try it. The I. Q. of the members of the Board was confused by it and soon they went back to the old percentage method of marking. Dr. Wherry once tried to have me invited to one of these dinners and failed. Just for that, and of course in spite, and even if it is not always true, I am tempted to say that deans are only "yes men" for the presidents of their universities, and that their names "are writ in water."

The last few paragraphs were written in a light vein. From now on I am fully serious.

It was my privilege for some years to sit in by invitation at the meetings of the Program Committee of the Academy. I was repeatedly astonished by Dr. Wherry's knowledge of the men of the country and the work they had done. His knowledge of certain men was devastating and almost made one afraid of him.

With Dr. Wherry the conventional letter of recommendation meant little or nothing. Letters of disapproval gave more real information if one could rule out personal spite as the motive back of them. In at least one city of this country a letter of recommendation coming from there was always matched by a letter of disapproval. One set of letters made the candidate flawless, the other said that he should have been in jail long ago. In some places, and in more places than you would suppose, cliques in medicine mar the brotherly love which you hear so much of these days.

Dr. Wherry made a positive contribution to medical education when he proved by the examination results of the American Board that a recently graduated physician practices on medical school knowledge and momentum for his first five years. If, between five and ten years after graduation, he does not read medical literature regularly and attend medical meetings, his medical knowledge ceases to be up to date.

In the Academy he introduced the Public Relations Committee and was unusually fortunate in the men he chose on it — Dr. Ralph A. Fenton and Dr. Erling W. Hansen. He gave the public a chance to hear the president of the society each year over the radio, which today is the ambition of every American.

To candidates before the American Board who failed their first examination, he often guided their future study personally by correspondence (where he got the time for it I never could see), and many of these men passed on a subsequent examination. This activity on Dr. Wherry's part was but one of the many human things which he did.

Dr. Wherry was fortunate that in his time propaganda had not made much headway in replacing education. Nothing is harder to evaluate than what a

teacher actually accomplishes. When a man tries to improve a special branch of medical education as Dr. Wherry did, it is even more difficult to do. All that I have attempted in this paper is to give the principal steps he took toward attaining his goal. In closing I will summarize them briefly.

Dr. Wherry in his effort to improve the education of the specialist worked through the Academy first and always, and then through the American Board of Otolaryngology. He made the Academy so much worth while that its membership mounted to 3,000 or more, making it the largest and the most far reaching in its activities of all the special societies. He made it possible for its members to see, hear, and rub elbows with many of the most distinguished men overseas. He was one of the founders of the Advisory Board of Medical Specialties.

As Secretary of the American Board he helped along with the other members of the Board to eliminate the self-styled specialist. His influence was strong in bringing about the greatest forward step of all, namely, that every special society should require a candidate for membership to hold the certificate of his special examining Board. This accomplished, most hospitals soon began to require such a certificate before a member of their staff could be promoted. In all these improvements, Dr. Wherry's ideas and influence played an important part. He fostered the instruction courses of the Academy. He will be greatly missed, especially in the next few years and when the war is over, because the teaching problems in otolaryngology will be acute, to say nothing of what they are now. He stressed the point that the older societies should take more interest in improving the education of the specialist and should lead in the formation of new policies, in fact, should, as individuals, become home missionaries in everything pertaining to the specialty. He maintained that examinations, no matter how thorough, will not reveal how well a candidate can use his knowledge. He came to the conclusion that letters of recommendation mean but little and that the best recommendation which a candidate can have is to come from a hospital where adequate training is given. These are at present few. It is not a friend-making job to rate hospitals and to publish lists. Some one should do it for our specialty regardless of the fact that it will increase his enemies a hundredfold. Dr. Wherry was on the point of doing this unpleasant job because future candidates for the American Board are constantly asking for such a list. Again Dr. Wherry will be missed, but to be missed is the beginning of being appreciated.

He was unceasing in his efforts to improve the quality and scope of the examinations of the American Board. Also he tried to improve the examiners. In the evaluation of a candidate's examination, he was fairness itself, and more than once kept the members of the Board up to 1 or 2 o'clock in the morning, debating decisions on doubtful candidates. Examiners who gave failing marks or whose marks were out of line with the rest of the marks had always to justify their questions. In other words, they had to stand what amounted to an examination themselves. I might add here that it takes three to five years to make a good examiner, one who does not ride his hobbies, who has perspective in his questions, and keeps little things little.

Dr. Wherry's main interests were the Academy and the American Board of Otolaryngology. He had "a compulsion ideal," to use an old phrase, to bring about through them the improvement of the education and efficiency of the ophthalmologist and the otolaryngologist. Of the men of my generation and yours, I feel that he did more than any one man to bring about increasing improvement

in these two fields. In his endeavor to better medical education in our specialty, his interest was not spasmodic, but continuous and lifelong. I feel that he accomplished much that spelled progress, much that is fundamental and will last.

Dr. Kettering[1] of General Motors put it neatly and strikingly when he said (I quote and condense), "We generally think of our great industries in terms of steel, automobiles, railroads, electricity, chemicals and the like. Our largest industry is, however, none of these—it is education. Fourteen billion dollars are invested in this country's educational facilities, which is several times larger than the amount invested in our greatest commercial industry—the making of automobiles."

In the field of otolaryngology, Dr. Wherry, I feel, ranks as an educator. The word, however, is too academic, stiff and musty to fit comfortably with his vibrant, colorful and very human personality, but I have not been able to find a better one. His outstanding ability as an organizer and administrator seems, at first glance, to be his main characteristic, but the aim of this paper has been to stress the fact that he was as well a teacher and an educator.

127 Front Street
Marblehead, Mass.

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DR. HAL FOSTER

PRESENTED BY THE
KANSAS CITY SOCIETY OF O.O.R.L.
TO THE AMERICAN ACADEMY
OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

TRANSACTIONS

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Editorial

Dr. Hal Foster, Founder

The Kansas City Society of O.O.R.L. has long been proud of the fact that one of its charter and lifelong members is also regarded as the founder of the American Academy of Ophthalmology and Otolaryngology, for it was the purpose of Dr. Hal Foster to organize such a society as this when he invited ophthalmologists and otolaryngologists resident in cities of the Midwest to gather at Kansas City, Missouri, on April 9-10, 1896. The "PROGRAMME," evidently printed in advance of the meeting, bore the title "Western Society of Eye, Ear, Throat and Nose Surgeons." A worn and tattered original copy, sealed in cellophane, in the possession of the Executive Secretary, is the only known copy in existence of this original printing. It contains the titles of 29 papers.

A reprinting of the "PROGRAMME" made at a later (time unknown) date was made bearing the same typography but with the name of the society changed to "Western Ophthalmological, Otological, Laryngological and Rhinological

PROGRAMME.

KANSAS CITY, MO.,

APRIL 9-10, 1896.

PARLOR S, MIDLAND HOTEL,

WESTERN SOCIETY OF

Eye, Ear, Throat and Nose Surgeons.

April 9, 10 A. M.

Called to order by Dr. J. H. Thompson, President Kansas City Academy of Medicine.

Address of Welcome by Dr. C. Lester Hall President Missouri State Medical Society.

Response by Dr. R. S. Black, President Kansas State Medical Society.

DR. HAL FOSTER, - Acting Secr

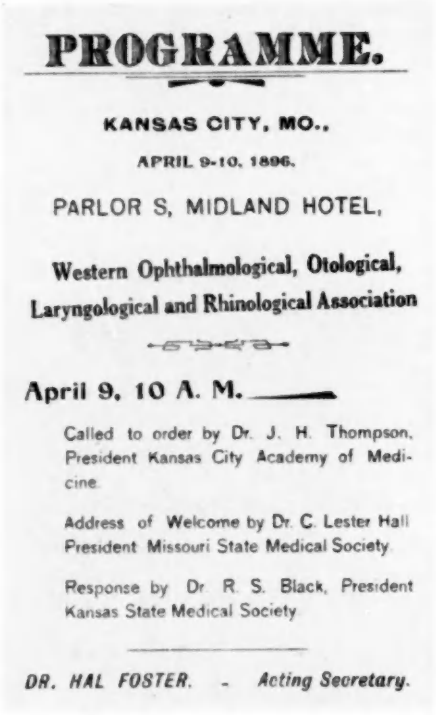
Association," the name decided upon at the meeting, and the first official name of the society organized at Dr. Foster's invitation.

The minutes of that meeting are not in the files of the Academy and presumably are lost. The second annual meeting was held April 8-9, 1897, in St. Louis, Missouri. The cover of the "PROGRAM," an original copy of which is in the Academy files, gives the name "Western Ophthalmological, Otological, Laryngological & Rhinological Association." Minutes of the Second Annual Meeting are on file in the Academy office. The first line of the typewritten report says: "The meeting was to order, with President Adolph Alt in the chair." Dr. Hal Foster was the Secretary.

A constitution and by-laws must have been prepared at the first meeting in 1896, for, according to the 1897 minutes, "the committee appointed by the President to suggest amendments to the constitution and by-laws, made report as follows:" Eight changes were approved.

Dr. W. L. Dayton, Lincoln, Nebraska, was Treasurer. As recorded in the minutes of the Second Annual Meeting, Dr. Dayton offered the following resolution which was "put and carried": "Resolved, that it is the sense of the Association that we do have an official organ for the publication of the transactions and that the publication committee do have the power to select such organ or organs." An amendment, moved by Dr. B. E. Fryer, Kansas City, "to the motion by investing full power in the publication committee" was carried with the original motion.

Loss of the minutes of the first meeting is regrettable, but from the reading of the minutes of the Second Annual Meeting there can be no doubt that an organization was set up, named, officers elected and a constitution and by-laws adopted. That meeting was called for that purpose by Dr. Hal Foster and he is entitled to the distinction of being the



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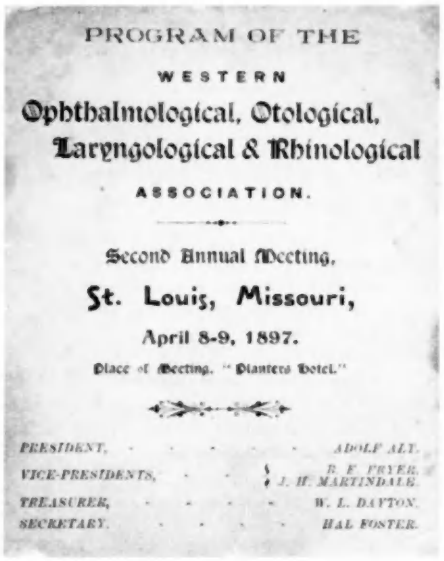

PROGRAM OF THE

WESTERN

Ophthalmological, Otological, Laryngological & Rhinological

ASSOCIATION.

Second Annual Meeting,

St. Louis, Missouri,

April 8-9, 1897.

Place of Meeting, "Planters Hotel."

PRESIDENT,	ADOLF ALT.
VICE-PRESIDENTS,	B. E. FRYER, J. H. MARTINDALE.
TREASURER,	W. L. DAYTON.
SECRETARY,	HAL FOSTER.

founder of the original organization of which the present Academy is a continuation.

The name of the society was changed in 1899 to Western Ophthalmologic and Otolaryngologic Association and in 1903 to American Academy of Ophthalmology and Otolaryngology.

The Kansas City Society of O.O.R.L. held an extraordinary session on April 9-10, 1945, in honor of Dr. Foster and unveiled an oil portrait of him. This portrait, only just finished, was intended for presentation to the American Academy at a ceremony to be held at the Fiftieth Annual Meeting in October at Chicago. Unfortunately this meeting could not be held because of a government ban on conventions and war-time restrictions of railroad travel.

Because the official presentation ceremony could not be held, an account of the Kansas City O.O.R.L. meeting was recorded and is presented to the Academy in this Jubilee Number of the TRANSACTIONS.

KANSAS CITY SOCIETY OF O.O.R.L.

April 9-10, 1945

EDGAR W. JOHNSON, M.D., *President*
WILLIAM E. KEITH, M.D., *Secretary*

PROGRAM

Monday, April 9, 1945

6:00 P.M.—President Hotel

Dinner given by Drs. Myers and McKee to Past Presidents of Kansas City O.O.R.L. Society to welcome Dr. Gordon New, President, and Dr. William Benedict, Executive Secretary of the American Academy of Ophthalmology and Otolaryngology, who have come to represent the Academy at this meeting being held to honor Dr. Foster.

Tuesday, April 10, 1945
Medical Department of
University of Kansas

9:00 to 11:00 A.M.—Dry clinics under the direction of Dr. Sam Roberts, head of the department of O.R.L., and Dr. E. J. Curran, head of the department of Ophthalmology. Here patients will be presented and Dr. New will discuss the O.R.L. cases and Dr. Benedict will discuss the Ophthalmology cases.

11:00 to 12:00 A.M.

A movie film on O.R.L. work by Dr. Gordon New.

A movie film on Ophthalmology work by Dr. Benedict.

1:00 P.M.—President Hotel.

Luncheon served for our distinguished guests and out of town members by and with best wishes of the K. C. O.O.R.L. Society.

2:30 to 4:30 P.M.

Dr. Summers, Chairman of O.R.L.

Dr. Robertson, Chair of Ophthalmology.

The purpose of this meeting is to give the out of town members a chance to present *problem cases* and to have Drs. New or Benedict discuss each. We suggest that out of town members send in their problem cases at once. Our secretary will send them to Drs. New and Benedict. They then will have a chance to study them and bring slides from the Mayo Clinic which will liven the program. Dr. Sum-

mers will lead off with an O.R.L. case and Dr. Robertson with one in Ophthalmology. Since all out of town members do E.E.N. and T. work this assembly will be held in one room.

6:00 P.M.—Aztec Room, Hotel President.

The Kansas City Society of O.O.R.L. is giving this complimentary dinner to its Members and Past Presidents of Jackson County Medical Society in honor of Doctor Hal Foster.

7:00 P.M.—Music.

Messages from the American Academy of Ophthalmology and Otolaryngology by
The President, Dr. Gordon New
The Executive Secretary,
Dr. William Benedict

Message from Jackson County Medical Society, Dr. Vincent Williams

Music

Biography of Doctor Hal Foster, Dr. J. L. Myers

Music

Message from Doctor Foster, transcribed

Unveiling Oil Painting of Dr. Foster, Dr. Sam Roberts

ADDRESS BY DR. GORDON B. NEW,

President of the American Academy of Ophthalmology and Otolaryngology

Dr. Myers, Dr. and Mrs. Foster, Ladies and Gentlemen: It is a great privilege to be present to represent the Academy on this occasion, the fiftieth anniversary of its founding, and the unveiling of the oil painting of its founder, Dr. Hal Foster. I wish to extend to Dr. Foster greetings from the members of the Academy and to tell him how much we appreciate what he has done for medicine in organizing what is now one of the greatest teaching medical associations of today. Dr. Foster's foresight in visualizing such a national organization has made for him a definite place in the history of American medicine. Kansas City has been fortunate in having men such as Dr. Foster as they have not only been a great stimulation in their local society, but have taken a very active part in national medical meetings.

Dr. Foster's original program, republished in the Bulletin,* was prepared for a comparatively small group of physicians, attending the first meeting of the Academy in April, 1896. This assembly marked the beginning of a great organization, which has grown to a membership of 3700, including men from Canada, West Indies, Central and South America, as well as the United States. Moreover, this meeting formed the nucleus of a broad educational program, which the Academy carries out, not only at its annual sessions, but also throughout the year. This includes papers, instructional courses, motion pictures, scientific exhibits, home study courses, and talks by guest speakers. No other organization has stimulated greater progress or disseminated more scientific knowledge in the field of Ophthalmology and Otolaryngology than has the American Academy. Consequently, it must be a source of much satisfaction for Dr. Foster to realize that by founding and guiding the development of the Academy, his contribution to these medical specialties has been excelled by no one. It is for this great achievement, Dr. Foster, that we are here to honor you tonight. We hope it will be possible to hold the annual meeting of the Academy in Chicago this Fall and to celebrate its fiftieth anniversary. It is our wish that you may be present, so that we may, as a group, do you honor. The Program Committee has planned for such an occasion if the Office of Defense Transportation feels that the meeting should be held. We hope to have a very memorable occasion.

* Bulletin of the Kansas City Society of O.O.R.L., Vol. 15, No. 3, April, 1945.

ADDRESS BY DR. WILLIAM BENEDICT,

Executive Secretary-Treasurer of the American Academy of Ophthalmology and Otolaryngology.

Dr. Myers, Dr. and Mrs. Foster, Members of the Kansas City Society, Ladies and Gentlemen: It is my pleasure to be present tonight in two capacities, as an honorary member of the Kansas City Society of Ophthalmology and Oto-Laryngology, of which I am very proud, also as the Executive Secretary of the American Academy of Ophthalmology and Otolaryngology, which was founded by one of your members, Dr. Foster, whom we all revere, and whom we are assembled here this evening to honor. Dr. Foster has probably builded wiser than he knew. A half-century ago there was little likelihood that anyone could foretell what the future of medicine would amount to in this country. There were socio-economic problems and there were professional problems that had to be met. Fifty years ago the specialties of medicine were paramount in Europe, and in the embryonic stage in this country. Students of a generation ago, who now are the outstanding men in our medical specialties, received much of their early training abroad. Today the men in medicine who wish to aspire to the higher ranks in our teaching profession and in research can have all the advantages of European education, and have them here in America. Our men have acquired the knowledge of our European predecessors. They have developed the facilities for teaching, have adapted medical practices to the times of our own country, and I can say without prejudice whatever that there is no country in the world that excels America in the practice of the specialties of medicine. Dr. Foster, of course, could not foresee this. When we look back over the past century on the development of medical organizations we note that they were organized largely by groups, by committees, and by representatives of specialties who wished to establish forums for communication of information and study along lines that pertained to their profession. There were ophthalmological and otolaryngological associations extant in 1896. Dr. Foster, however, on his own initiative, invited the outstanding specialists in the surrounding states to organize another and prepared a scientific program for the first meeting. In this program there was no place for controversy; there was nothing that had to do with the relationship between the profession of medicine and the political socio-economic problems of our nation. It has been the pride of the Academy that, during this half-century, the main aims and purposes of this medical organization have remained exactly as Dr. Foster planned them fifty years ago. There never has been a time in the history of the Academy when a single controversial matter of any import has come before the Council or before the body of the assembly. We leave to the American Medical Association, to the American College of Surgeons, to the Association of Medical Colleges and other organizations of which we are all members, those problems which have to do with the relationship of the practice of medicine to the body politic. The Academy has devoted itself entirely to the problems of evaluation of a professional practice, to education and to instruction.

Many developments have appeared since the founding of this organization. At the first meeting there was only a forum before which papers were read and discussions were made of subjects that were pertinent to the occasion. Since that time, other means of education and of communication have appeared. I speak of visual educa-

tion, particularly the motion picture which has been made possible through the great advances of electronics. I mean too the scientific exhibits in moulage, motion pictures, drawings and other means of demonstrating things that have to do with the development of our own practice of medicine. We have also another means of education and instruction, which has become a very definite part of our program. It has to do with investigation of problems of research that deal with large bodies of persons, such as the conservation of hearing and industrial ophthalmology particularly. At present we carry on also a demonstration course in the management of instruments of precision. Frequently spoken of as commercial exhibits, we prefer to call them technical demonstrations. There are men who demonstrate to our Fellows at the Academy meetings the use and care of the instruments of precision that they must use in their daily practice. All of these means of education have been incorporated into this one body to a greater extent than by any other medical organization, general or special, in this country. In addition to the regular work of the Academy that has been carried on for many years, we have six auxiliary organizations, committees which are carrying on special studies, special investigations; organizations that are entities in themselves, but which are sponsored by the Academy and fostered by the Academy and have their outlet through our publication, the TRANSACTIONS. We do not know yet how far the American Academy of Ophthalmology and Otolaryngology can go. It is still young; it is growing, with the healthiest background, and from the soundest seed that is possible for any such organization to have.

For all this, whether he dreamed of it at the time or not, great credit is due to the founder of this organization, Dr. Foster. It is not only my great personal pleasure to express my gratification to him, but as an officer of the Academy to do him the honor of acknowledging the remarkable debt that we owe to him.

FELICITATIONS FROM THE JACKSON COUNTY MEDICAL SOCIETY

DR. VINCENT T. WILLIAMS

We are assembled tonight in order that we may pay tribute to a fellow member, to a charter member of the Jackson County Medical Society, Dr. Hal Foster.

Others of our Society have attained high honors, but it is safe to say that no one else has carved his name more enduringly on the eternal scrolls of our Society's history.

Our Society was formed, it was nurtured and it was developed by such men; under their guidance it became useful and articulate. And no one has rendered more faithful, worth while service than he; no one deserves or commands more respect and esteem from fellow members.

By nature some men are dreamers, others are doers; yet here, in this one quiet, unassuming, courteous, efficient man, in this one thoroughly lovable man, we find both. With never an unkind, disparaging or deprecating word for a fellow practitioner, with never a boasting or a vainglorious attitude of self-seeking or self-acclaim, this man has erected a structure which will remain forever as a monument to his dreams and his acts.

Through some quirk of fate he was never elevated to the highest office in this, your organization. We suspect that this is as he wished. It has been said, "By his deeds shall ye know him." And how truly was this spoken, for how could a man's acts live and breathe more fittingly than in this group which he has formed.

Perhaps many will search their memory in vain for the name of some past president of this organization, but could any man hesitate when asked the name of him who originated it? Will any be at loss for the name of him who dreamed it, then created it? No, the shadow of oblivion will never fall across the name of Hal Foster; he has built well, on firm ground, of fine materials and will always remain one of the splendid traditions in our glorious and noble profession. Therefore, we cannot conceive of any honor your organization could possibly confer on him greater than this.

It is my privilege to salute you, sir, with love and affection as a fellow member of the Jackson County Medical Society. I can bring you no more appropriate tribute than to say, "God bless you for your long and faithful service; would that God in His infinite wisdom might give us more men like you, just like you!"

HAL FOSTER

A biography by Dr. John L. Myers, Kansas City, Mo.

Tonight we are assembled under circumstances afforded few people. We are paying homage to a man whose medical benefactions have blessed Kansas City for more than three score years. What we are feebly attempting to do here in this small room should be a function carried on in our Municipal Auditorium, with an audience of this city's citizens gathered to honor a man who has served this commonwealth as a physician longer than has been the privilege of any other person; and perhaps longer than will ever be granted any other medical man.

In searching for material for the story of Dr. Foster's life and work, I went to "Who's Who," knowing he deserved being classed among the many whose names appear in that volume. I was disappointed, but not surprised in not finding his name there. He never sought or cared for such publicity. Were his name placed in "Who's Who," the information would be something like this:

Foster, Hal, M. D., O.R.L. Surgeon, b. Fosters, Alabama, July 7, 1858; s. James Collier and Jane Ware Foster; education—Private School at Fosters, named after his grandfather; graduated from High School at Green Springs, Alabama; A.B., University of Alabama; M. D., New York University Medical College, 1882; special courses on O.R.L. at New York Eye and Ear Infirmary, Manhattan, E.E.N. and T. Hospital, Metropolitan Hospital, New York Post-Graduate Hospital and Polyclinic Medical School; practiced in New York City for a short time; settled in Kansas City, Sept. 17, 1882; became member of staff of St. Joseph and General Hospitals, the only ones in Kansas City at that time; became member of staff of other hospitals as they were organized; for many years on teaching staff of K. C. University Medical College; also of Medical Department of Kansas University; took post-graduate work in London, Berlin, Munich, Moscow, and Paris; visited clinics in Rio de Janeiro and Buenos Aires; Father of A. A. of O. O., Charter member J.C.M.S., charter member K. C. Academy of Medicine, charter member K. C. Society O.O.R.L., charter member of K.C.S.W. Clinical Society, charter member of American College of Surgeons; author of thirty-two papers listed in Quarterly Cumulative Index Medicus; married Myrtle Hamilton, Nov. 7, 1932; Independent Democrat; Baptist; 32nd degree Mason; Shriner; retired 1942; address, Brookside Hotel, Kansas City, Missouri.

That tells only part of the story. Dr. Foster was born three years before the Civil War and became inured to financial hardships early in life. He says: "The Civil War confiscated two-thirds of my father's property, which was in Negro slaves, at that time permitted by the Constitution of the United States." Of his early life he writes, "In my early, happy, boyhood days in Alabama, I indulged in horseback riding, hunting, fishing, swimming and playing baseball."

The high school which he attended was patterned after Rugby High School of London, and was attended by a large number of select, southern boys. During his university years he took special chemical courses under Dr. W. C. Gorgas, Sr., who had been Surgeon General of Gen. Robert E. Lee's Army. At the university he also made the acquaintance of W. C. Gorgas, Jr., later a surgeon in the U. S. Army, and who was instrumental in eliminating yellow fever from Havana, Cuba, and the Panama Canal Zone. In medical school his teachers were some of America's outstanding physicians. Dr. Foster was eminently fitted for O.R.L. work when he faced westward for a location.

Three incidents in Dr. Foster's life influenced him to come to Kansas City, instead of returning to his beloved native state in Dixie:

1. The economic problems produced by the Civil War, from which the Foster family suffered during his boyhood, still were vividly remembered.

2. Horace Greeley's editorial, "Go West, Young Man, Go West," published in the New York *Sun*, turned young Foster's attention to this part of America.

3. A friend in the South suggested that he go to Kansas City and look it over, as it was a new and growing city, and the South was struggling to recover from four years of terrible war.

On Sunday morning, September 17, 1882, when Dr. Foster landed in Kansas City, this was little other than a large, overgrown country town. Today the world is looking to Kansas City, located in the heart of America, for much of its food supplies. In 1944 this region produced:

In livestock:

Calves	386,869
Cattle	1,979,240
Sheep	2,247,092
Hogs	3,527,855

In poultry and eggs:

Turkeys	942,000
Chickens	85,989,000
Eggs	8,777,000,000

In grain:

Rye	6,791,000 bu.
Oats	121,223,000 bu.
Wheat	337,327,000 bu.
Corn	640,160,000 bu.

I have given you these figures to show that Dr. Foster was a man of vision when he decided to settle in Kansas City.

Though Dr. Foster came to Kansas City a total stranger, he soon proved to the medical profession his real worth as an O.R.L. specialist, and in a short time developed a lucrative practice. However, having intimately associated with the best of specialists in the East, he became lonesome and yearned for fellowship with leaders in O.O.R.L. work. He knew the specialists in the East had fine medical organizations and saw the need of some such an organization in the West.

In reply to a letter which I wrote Dr. Foster, he gave me the following information: "I thirsted for more knowledge and consultation with doctors in eye, ear, nose and throat work. Yes, I wanted a national and Canadian Society. I spent one year or more working and writing to men of the above specialties, getting their opinion. After getting so many encouraging letters I asked a certain number of men to read papers; every man I asked came and read his own paper. No medical society assisted me in any way whatsoever, program included. The Presidents of the Academy of Medicine and the Missouri and Kansas State Societies were present at the opening of the first meeting and made short talks. I paid about $400.00 or more in a banquet, lunches, postage, printing and materials. I also paid a stenographer who was the only one that gave me any assistance in the organization, and I

have never regretted it. All physicians that I invited thought it was a much needed organization. Thirty-five states were represented at the first meeting. My name was proposed for the first President; also at the second meeting. I gave way at the first for Dr. Alt [Adolph Alt] of St. Louis, and at the second [third] for Dr. Fryer of Kansas City, as they were older than I. To me it seemed best to begin with older men. The Society was received with great enthusiasm, and began to grow and has continued to grow ever since. When I look at the large number of distinguished men at the annual meetings, giving private courses, I feel well repaid for what I did in trying to advance study and knowledge to the coming generations; all for the great benefit of humanity. We are still trying to make people see and hear. May this high scientific work continue and future generations yet unborn profit thereby."

The men assembled in Kansas City, April 10, 1896, organized a society which they named The Western Ophthalmological, Otological, Laryngological and Rhinological Association. Early in its existence the organization was popularly known as the W.O.O.L. Society. The membership rapidly increased in numbers and came from so many states that at the meeting in Indianapolis in 1903 the name was changed to The American Academy of Ophthalmology and Otolaryngology, which name the organization has continued to carry to this day.

The genesis of the Academy was in Kansas City; the organizers were the men assembled there; the founders are legion, because every man who had contributed to developing and making the Academy what it is today is one of the founders; the FATHER of the Academy is Dr. Hal Foster—it was conceived in his mind and it was he who invited the men to come to Kansas City for the specific purpose of creating such an organization.

One of the ironies of fate is that the man who created an organization to teach men how best to care for eye and ear maladies should in the sunset of his life have his hearing so impaired that he can scarcely hear and his vision so dimmed that he cannot read as he would like to do. Notwithstanding these physical ailments and the burdens of age, Dr. Foster, who is now the only living charter member, continues attending the annual meetings of the Academy. He has attended every meeting except when they were held while he was traveling in foreign countries.

Dr. Foster's life has not been so colorful as the life of many men of his time. So modest and self-effacing has he been, and so quietly has he mingled with his fellows at each meeting, that the majority of the Academy membership is not acquainted with him, nor is it generally known that he is the father of the organization. Just recently I was talking with one of the secretaries who expressed surprise on learning of the work Dr. Foster had done. Even the organizers of the Honor Group of the Academy overlooked making him one of their members for several years, and until a Kansas City member of that group called attention to the fact that the man responsible for the organization of the Academy had not been made a member of the Honor Group.

Following are some facts about Dr. Foster which are worth remembering:

Dr. Foster will not be remembered because of his writings. Though medical literature reveals he has published thirty-two papers, he has never attempted to publish a book. Many men with less experience have attempted to immortalize themselves by getting out a book. Not so with this man. No one will ever see a book written by him — not even an autobiography.

Many men have invented instruments or worked out some special technic in an operation which bears their name and perpetuates their memory. Dr. Foster has done neither of these.

Dr. Foster has never owned a home. Having dedicated his life to treating the ills of humanity, he never gave thought to home-making. He always lived in hotels or apartments. The motto "God Bless Our Home" for him had to be changed to "God Bless My Flat."

He was not a social climber. His clientele was from the elite of Kansas City. He was so devoted to his profession that he could not be lured by society or social functions. He not only had a lucrative practice, but he also gave time to minister to the poor in clinics. He was and is a man:

"Who can walk with crowds and keep his virtue
Or talk with Kings nor lose the common touch."

Even golf could not intrigue him. Of this game he says: "When I came to Kansas City I joined the Eviston Golf Club, then located west of Swope Park. When that club was sold I united with Hillcrest Club where I stayed until Blue Hills Club was organized. I joined that club because it was nearer the city. As I could not become deeply interested in the game, I sold my membership."

One finds positive phases as well as negative in Dr. Foster's life:

He was definitely, deeply, determinedly a religious man. With some evidence of pride he says that for sixty years he has been a member of the Y.M.C.A. and that he is a church member, that he firmly believes in the Bible and its teachings.

He is an altruist. He is one physician who ever strove to advance others. As an illustration: When I came to Kansas City he was the only doctor who called on me at my office to welcome and wish me success. Many another man here tonight can bear witness to his having done the same kindly deed for them. When he was President of this society he made me chairman of the program committee. I have filled that place for many other presidents, and am still working at the job he pushed me into. When the Academy met in Kansas City for its twenty-fifth meeting Dr. Foster recommended me for membership, as he did many others here. Dr. Foster was ever watching for chances to help others.

He was married to the medical profession:

Witness:

Charter member of College of Surgeons
Charter member of J.C.M.S.
Charter member of K. C. Academy of Medicine
Charter member of K.C.O.O.R.L. Society
Charter member of K. C. S. W. Clinical Society
Charter member and FATHER of American Academy of Ophthalmology and Otolaryngology

Dr. Foster loved to travel. He says, "One of my greatest pleasures has been traveling around the world and seeing the great cities and nations of the world. Once I took a trip around the northern hemisphere. While in Denmark I saw the monument of Dr. William Meyer, the first physician who removed pharyngeal adenoids." When Dr. Foster was President of the Kansas City Academy of Medicine, that group, at his request, contributed money for the erection of that monument in Denmark. His trip around the southern hemisphere took him through all South America, Australia, New Zealand, Tasmania, New Guinea, many other south sea islands, the Philippines and Japan. He has also visited Turkey, the Holy Land, Egypt, South Africa and India.

Dr. Foster was and is a positive, but not a dynamic personality. Without display he practices his Christian beliefs

just as he practiced medicine, honestly, earnestly, and sincerely. He was never a popular mixer with men, and yet no man has more friends. Others might drink of the convivial cup and become loquacious, but Dr. Foster's brain was never befuddled nor his tongue loosened by any kind of liquor. He could attend a cocktail party and enjoy himself as much or more than those who were bacchanalian habituates. If the attitude of all persons toward cigarettes were the same as Dr. Foster's, the United States Government in 1943 would have lost the internal revenue on $1,927,000,000 paid by smokers for 257,000,000,000 cigarettes manufactured that year by tobacco companies.

As for risque stories, if it were left to Dr. Foster to pass them on, they would die in the borning.

Dr. Foster is one of the few men that I know who would have been received by King Arthur among the group at the King's Round Table, for he never spoke evil of any man, nor thought it.

Gentlemen, this Society presents the man "whom we delight to honor," the FATHER OF THE ACADEMY, DR. HAL FOSTER.

DR. FOSTER'S CLOSING WORDS

Fellow Physicians: You have so overwhelmed me with kindness and honors, that I find words not adequate to express my appreciation for what you have done.

I want to thank Dr. Benedict, our old friend, and Doctor New for coming down here at this time. There is a sense of sadness comes over me when I think that practically all who attended that first meeting (in April, 1896) are gone. The last I heard, only two were living. I don't know whether they are still living or not. I certainly appreciate very much what the medical profession has done for me. A short time ago, the Eye, Ear, Nose and Throat Association of Kansas City gave me this medal. Some time later, Dr. Benedict sent me this key as evidence that I am a member of the Honor Group of the Academy. I have had more honors conferred upon me than I deserved.

Again, I thank you.

ADDRESS BY DR. SAM ROBERTS

KANSAS CITY, MO.

Tonight we are celebrating the fiftieth anniversary of the American Academy and paying a just tribute to its founder, Dr. Hal Foster. Any institution to survive, must be conceived and dedicated to certain idealistic principles. It must serve a definite and useful purpose. It must be carried forward with able and untiring hands. The Academy has weathered many stormy seas. An English professor of mine once gave me a quotation which I think apropos of Dr. Foster.

> "One ship sails East,
> One ship sails West
> By the selfsame winds that blow
> 'Tis the set of the sail
> And not the gale
> That marks the course you go".

Dr. Foster set the sail fifty years ago; he conceived the Academy and inoculated it with an idealism which has remained steadfast. It has followed a true course. His hands are now tired, and he is handing the torch to us as we also will hand it to others a few years hence. Never was the Academy in more able hands than it is today with Dr. Gordon New and Dr. William Benedict. Even though the Academy is fifty years old we can properly imagine it in its swaddling clothes; it will probably go on for hundreds — even thousands of years. Medical historians will not record what we say here, but they never can forget what he [Dr. Hal Foster] did in

his modest, inimitable way. The Academy has never gone backward; in my twenty-five years of membership I have seen it develop from a good medical society with lively and timely discussions to a great educational institute for graduate work. It will continue its forward course as one of the greatest avenues of approach, its clinical and laboratory research, which has a definite and practical objective. The physiologist and biochemist have taught us a great deal. If their teaching is followed, many unnecessary operations, especially of the nose, can be prevented. We are a large enough society now that we should contribute to cancer research. At the time our Academy was born, the knowledge of tuberculosis was very scant. Yet, the problem is pretty well solved. So much so that a recent authority said that for the cost of ten hours of war, every person in the United States could be examined, chest x-rayed, and isolated, so that the disease a few years from now would be as rare as smallpox. This I believe will also be true of cancer.

In unveiling this portrait of Dr. Foster, I do it with the love and admiration of the entire Kansas City Society and, I am sure, of the North American continent. It is our very great pleasure to present this portrait to our fellow practitioners.

In Memoriam

Michael Valentine Ball ..... Warren, Pennsylvania
May 26, 1945

Donald A. Bartley ..... Indianapolis, Indiana
June 16, 1945

Lawrence C. Ingram ..... Orlando, Florida
July 2, 1945

Douglas P. A. Jacoby ..... Newport, Rhode Island
August 26, 1945

Frank Henry Rosebrough ..... San Antonio, Texas
September 16, 1945

Thomas Francis Welsh ..... Salt Lake City, Utah
May 13, 1945

Thomas J. Williams ..... Evanston, Illinois
August 10, 1945

REPORT FROM THE WILMER INSTITUTE ON THE RESULTS OBTAINED IN THE TREATMENT OF MYOPIA BY VISUAL TRAINING

ALAN C. WOODS, M.D.
BALTIMORE, MARYLAND

THE PURPOSE of this paper is to report the results of an investigation on the effect of visual training in uncomplicated myopia. The participation of the Wilmer Institute in this investigation was limited solely to examination of the patients before the beginning of the training, and again after the training had been completed. The pre- and post-training examinations were made in the Wilmer Institute by staff members under the direction of Dr. Frank B. Walsh. The training program itself was conducted in another part of Baltimore, remote from the Johns Hopkins Hospital, under the direction of Dr. A. M. Skeffington, Director of the Graduate Clinic Foundation of St. Louis, Mo., and his associates. The Wilmer Institute therefore acted solely as a judge of the effect obtained, and so acted without either endorsement or condemnation of the visual training conducted by Dr. Skeffington and his associates. The background leading up to this investigation was as follows:

In the spring of 1944, the Curtis Publishing Company, through the agency of Mr. Bruce Gould, offered to finance an investigation on the merits of widely publicized methods of visual training in the treatment of myopia. The fundamental idea of this investigation was to collect a suitable group of uncomplicated myopes, have their visual acuity and refraction errors determined prior to the course of visual training and at the conclusion of such training have the patients again examined to determine if any demonstrable improvement in the vision or underlying myopia had occurred. To this end Mr. Gould proposed to bring to Baltimore several leading advocates and exponents of the training therapy, which gentlemen would establish a clinic in Baltimore where such treatment could be properly pursued. The Wilmer Institute was requested to act as judge of the results obtained. After preliminary discussion, the Wilmer Institute accepted this proposition under the following specific conditions.

The candidates for training would be recruited by Dr. Skeffington and his associates and sent to the Wilmer Institute for a preliminary examination. After this examination candidates showing any ocular pathology or who did not appear suitable for such treatment would be rejected by the examining physician in the Wilmer Institute. The nature of the eye examination to determine the visual acuity, refractive error, etc., was entirely at the discretion of the staff of the Wilmer Institute, with the agreed stipulation that recognized standard tests and standard illumination would be employed. The results of the preliminary examinations were not to be transmitted to Dr. Skeffington or his associates, but were to be filed with the Curtis Publishing Company. The selected patients would then be given such visual training as Dr. Skeffington and his group believed proper, the staff of the Wilmer Institute having no knowledge of the type or

From the Wilmer Ophthalmological Institute of the Johns Hopkins Hospital and University, Baltimore, Maryland.

extent of such training. On the completion of the course of visual training, the patients would be returned to the Wilmer Institute for a second examination. In certain cases, notably when some improvement was noted, the patients might again be returned to the Wilmer Institute for a third examination to determine whether the observed improvement was maintained. It was agreed that the results of these examinations should be tabulated and reported by the Director of the Wilmer Institute in a recognized medical periodical before they were reported or referred to either by the Curtis Publishing Company or Dr. Skeffington's group. The Wilmer Institute received no financial support of any kind from the Curtis Publishing Company or any other agency. These conditions were agreed to by the Curtis Publishing Company, by Dr. Skeffington's group, were approved by several leading ophthalmologists who were consulted, and the investigation was undertaken.

Accordingly, in September of 1944, Dr. Skeffington and his associates moved to Baltimore and established a clinic in the downtown section of the city. The patients for examination were recruited chiefly from the public schools of Baltimore, with inclusion of a few private patients and nine candidates who were midshipmen from the United States Naval Academy in Annapolis. These patients were then sent to the Wilmer Institute for examination, and 103 were selected as being uncomplicated myopes and proper candidates for training. The patients were then returned to Dr. Skeffington for training. On the completion of the training they were then returned to the Wilmer Institute for the post-training examination. The training clinic continued in operation until December of 1944. The final third examinations on the patients showing improvement were completed in May of 1945.

TECHNIC OF EYE EXAMINATION

First Examination: Each patient referred to the Wilmer Institute as a candidate for training under this program was subjected to the following examinations:

1. Determination of the visual acuity without correction of each eye at 20 feet or a shorter distance when necessary. Four charts were used for this purpose: (a) Snellen chart with letters, (b) Snellen chart with numbers, (c) Landolt broken ring chart and (d) Snellen letter E chart. In this examination, as in all tests of visual acuity, the individual was required to declare smaller objects could not be seen, or consistently make comparable errors in stating what was seen. The amount of illumination was between 24 and 26 foot candles, and this was constantly checked.

2. A cycloplegic was then instilled in the eyes. Two instillations of 5 per cent homatropine were used in individuals 9 years or over. Atropine sulphate, 1 per cent solution three times a day for two days, was used in younger individuals. The eyes were then retinoscoped and the static refraction was determined.

3. A general external and ophthalmoscopic examination was made to rule out any ocular pathology.

Second Examination: The visual acuity without correction was again made on the four separate charts as in the first examination. In 67 instances further retinoscopic determination was made.

Third Examination: The visual acuity without correction was determined as in the first two examinations.

TECHNIC OF VISUAL TRAINING PROGRAM

The visual training program which these patients received is summarized by Dr. Skeffington as follows:

"The visual training rests on the postulate that seeing is a learned act and is therefore susceptible to training. A system of differential analysis was employed to discover the type of distorted pattern resulting from undesirable visual practices. Spheres, cylinders, prisms and targets were employed in this training program with the idea of re-organizing the visual behavior patterns that the visual skills, including acuity, can be improved significantly. This method of visual training has neither in theory nor practice any relation to the so-called Bates theory, and in theory and practice it involves no deviation from the known and accepted theories and facts of physiology and neurology of the eye or the experimental psychology of vision. It has its inception in the work of optometrists, stemming from the standard literature on learning. The records of this development from its start exist in the optometric literature, and are covered in the papers of Drs. George Crow and Harry Fuog, S. K. Lesser, Leslie B. Burdette, Marguerita Thoma Eberl and others, in the Optometric Extension Program, articles on training in the files of the Optometric Weekly, the American Journal of Optometry, and other publications."

TABULATION OF RESULTS

The full information on every patient is contained in the final table IX. It will be noted that there were marked fluctuations in the visual acuity of the majority of the patients on different charts. It was impossible to average these different visual acuities on the Snellen scale. Therefore each observation on the Snellen scale was reduced to percentage visual acuity, using the tables computed in Dr. A. C. Snell's book on Medico-Legal Ophthalmology. The pre- and post-training visual acuity was arrived at by taking an average of the percentage visual acuity as determined on the four charts. The results reported, whether they be improvement or diminution of vision after training, are therefore an increase or decrease in the percentage visual acuity and not the percentage of gain or loss of vision.

From the statistical viewpoint, this method of reporting results leaves much to be desired. Primarily, as will be hereafter pointed out, it weighs the scales in favor of improvement according to the degree of myopia. Secondly, grouping the patients according to the results involves the fallacy that each group contains individuals with all degrees of myopia. However, attempts to group the patients according to the degree of myopia resulted in a multiplicity of small tables which were meaningless. Further, since some patients had high degrees of anisometropia, the patient as an entity could not be grouped under one heading. The attempt to group the material under "eyes" rather than patients, completely ignored the individual subjective element. Although the patients in each of the four groups varied somewhat in the degree of their myopia, nevertheless, as will later be pointed out, the average percentage visual acuity of Groups I and II was low, of Group III was in the mid-zone, and of group IV was high. Therefore, despite the fact that grouping the patients on the basis of results rather than degree of myopia involves a statistical fallacy, nevertheless the different groups roughly reflect different average levels of myopia, and this method appears to be the fairest and best calculated to give an accurate over-all picture.

RESULTS

On the basis of the average pre- and post-training percentage visual acuity, the patients fall into four definite groups. These are:

I. Patients who showed a consistent

improvement in each eye on all four charts.

II. Patients who did not show a consistent improvement on all four charts, yet in whom the over-all average in the percentage visual acuity after training was at least 10 points better in one eye than the pre-training figure, and in whom the second eye was at least no worse, irrespective of the fact that on one or more charts the post-training vision was not improved, or might even be below the pre-training level.

III. Patients who showed no practical change in the eyes after training. This includes patients in whom the observed increase or decrease in vision was less than 10 points in the percentage visual

TABLE I.
Patients Showing Improvement In All 4 Charts.

Cases	Average Percentage Visual Acuity				Average Percentage Improvement on 2nd Exam	
	Before Exercises		After Exercises			
	Right	Left	Right	Left	Right	Left
1	13	9	37	51	24	42
3	83	69	94	92	11	23
4	79	95	99	100	20	5
13	88	61	98	88	10	27
14	24	17	46	51	22	34
16	81	81	91	90	10	9
17	3	20	20	84	17	64
30	13	15	41	36	28	21
34	9	10	34	39	25	29
37	5	3	37	37	32	34
40	1	1	16	21	15	20
44	9	12	21	42	12	30
52	1	3	14	33	13	30
53	8	2	49	48	41	46
57	32	4	72	70	40	66
63	42	47	79	66	37	19
67	2	4	10	13	8	9
78	6	7	47	26	41	19
89	17	16	71	71	54	55
95	17	23	71	60	54	37
97	42	43	81	87	39	44
98	88	4	97	28	9	24
103	2	6	43	34	41	28
104	100	11	100	44	0	33
106	17	14	35	39	18	25
107	19	27	46	53	27	26
121	2	3	11	10	9	7
122	2	1	19	9	17	8
124	40	42	73	76	33	34
126	48	39	83	71	35	32
Average.....	29.76	22.97	54.5	52.3	24.7	29.3

acuity, or patients who showed an improvement in one eye and a loss of visual acuity in the second eye, irrespective of the degree.

IV. Patients who showed a loss of 10 points or greater in the percentage visual acuity of one eye, while the second eye was either stationary or likewise showed some loss in percentage visual acuity.

Group I: There were 30 of the 103 patients who showed a consistent improvement in each eye, on all four charts, of over 10 points in the percentage visual acuity. The average results of these 30 patients are shown in table I.

Thus, the average improvement in percentage visual acuity in the right and left eyes was respectively about 24.7 and 29.3 points. This corresponds to an average improvement of reading about one to three additional lines on the Snellen charts depending on the degree of myopia, a high myope with pre-exercise visual acuity of 20/200 and post-exercise acuity of 20/100 showing 28 point improvement, while a low myope with 20/50 pre-exercise acuity and 20/20 post-training acuity showed only 22 points improvement, despite the more spectacular improvement on the Snellen scale.

A consistent effort was made to have each of these 30 patients return for a third examination to determine to what extent the improvement observed on the second examination had been maintained. These efforts were successful in only 9 instances. The remaining 21 patients had either disappeared or had lost interest and did not respond to the request to return. A comparison of the gain over the pre-training level showed by these 9 patients is set forth in table II.

In these 9 patients the average gain in percentage visual acuity disclosed on the second examination in the right and left eyes was respectively 29.4 and 34.5 points. On the third examination, performed from three to five months after the second examination, this had dropped to 19.8 points in the right eye and 17.4 points in the left eye. In two patients (1 and 107) the improvement noted on the second examination had, on the average, been maintained. In the remaining 7 the observed improvement had declined.

Group II: There were 31 patients who, while they showed no consistent

TABLE II.
Results of Third Test Three Months After Completion of Exercises.
Patients Showing Improvement In All 4 Charts.

Cases	Improvement of Percentage Visual Acuity on 2nd Test		Final Improvement of Percentage Visual Acuity on Third Test	
	Right	Left	Right	Left
1	24	42	30	34
34	25	29	7	— 2
30	28	21	16	15
37	32	34	21	31
52	13	30	2	2
57	40	66	16	4
63	37	19	19	18
97	39	44	27	20
107	27	26	31	35
Average	29.4	34.5	19.8	17.4

improvement on all four charts, nevertheless showed an over-all average improvement of at least 10 points in one eye, and no loss in the second eye. The average records of these patients are set forth in table III.

The average improvement of percentage visual acuity of these 31 patients was 13.0 points in the right eye and 16.4 points in the left eye. Eight of these patients returned for a third examination, three to five months after the completion of the training. A comparison of the gain disclosed in the sec-

TABLE III.
Patients Showing Inconsistent Improvement on Four Charts.

Cases	Average Percentage Visual Acuity				Average Improvement in Percentage Visual Acuity	
	Before Exercises		After Exercises			
	Right	Left	Right	Left	Right	Left
5	100	27	99	52	—1	25
9	16	18	27	47	11	29
12	27	16	42	27	15	12
20	68	70	82	84	14	14
27	16	24	21	41	5	17
28	88	22	90	59	2	27
29	2	4	4	26	2	22
32	27	15	32	27	5	12
35	17	11	20	31	7	20
38	2	1	19	16	17	16
39	4	5	10	15	6	10
41	21	31	68	32	47	1
42	21	14	21	28	+—	14
46	7	18	18	18	11	+—
48	4	4	10	22	6	18
49	4	2	6	26	4	24
50	16	16	34	21	18	5
51	8	3	8	17	+—	14
60	49	17	62	50	13	37
65	18	19	27	32	9	13
66	21	23	39	46	18	23
68	14	17	33	30	19	13
70	35	35	52	55	17	20
74	22	26	31	47	9	21
79	42	56	77	57	25	1
88	8	17	15	35	7	18
94	12	28	54	56	42	28
96	57	44	67	72	10	28
109	3	98	21	98	18	+—
110	15	11	27	17	12	6
127	24	34	55	49	31	15
Average.....	24.8	23.4	37.8	39.8	13.0	16.4

TABLE IV.

Results of Third Test Three Months After Completion of Exercises In Patients Showing Inconsistent Improvement On Four Charts.

Cases	Improvement of Percentage Visual Acuity In 2nd Test		Final Improvement of Percentage Visual Acuity On Third Test	
	Right	Left	Right	Left
9	11	29	19	10
20	14	14	16	11
41	47	1	—5	—7
60	13	33	4	10
70	17	20	22	20
79	35	1	—16	—22
110	12	6	—2	—5
127	31	15	+10	—2
Average	22.5	14.9	+ 6	+ 1.9

ond examination against the final change shown in the third examination is shown in table IV.

Three patients (9, 20 and 70) had roughly maintained the improvement observed on the second examination. One patient (60) had lost two-thirds of the observed improvement. One patient (127) had lost two-thirds of the improvement noted in the right eye, and all the improvement in the left eye. The remaining three patients (41, 79 and 110) had lost all of the improvement observed in both eyes, the final figures being actually below the pre-training level, although the diminution was in no case significant. The final average gain of these 8 patients was 6 points in the right eye and 1.9 points in the left eye. In short, the average percentage visual acuity was essentially unchanged.

Group III: There were 32 patients in this group who showed only minor change in the visual acuity after visual training. The changes noted were (a) either less than 10 points in the percentage visual acuity either on the plus or minus side in each eye, or (b) a variation of greater than 10 points plus in one eye while the second eye showed a loss in percentage visual acuity. The average swing in these 32 patients was +4.1 points in the right eye and +2.4 points in the left eye. No attempt was made to bring these patients back for a third examination. The average figures for these 32 patients are shown in table V.

Group IV: There were 10 patients who showed a diminution in the percentage visual acuity in both eyes after the visual training. As already stated, these changes on the minus side were insignificant and well within the subjective margin of error. The changes average -12.7 points in percentage visual acuity in the right eye, and -8.9 points in the left eye. The average figures for these 10 patients are given in table VI.

A summary of these four groups is shown in table VII.

A number of these 103 patients, 67 in all, were again retinoscoped under a cycloplegic on the second examination after completion of the eye exercises. A comparison of the pre- and post-exercise retinoscopies is shown in table VIII. It is immediately apparent that the visual training had produced no change in the basic myopic error. The occasional minor changes noted are these which would result in variations of the action of the cycloplegic.

COMMENT

It is not within the scope of this report to discuss any theoretical merits or demerits in the visual training program detailed in the optometric literature and used on these patients, or to comment upon other popular theories which have at one time or another been advanced in support of the treatment of myopia by eye exercises or visual training. While we did determine the retinoscopic error in a number of the

TABLE V.
Patients Showing No Significant Change In Percentage Visual Acuity After Exercises.

Cases	Average Percentage Visual Acuity				Average Change In Visual Acuity	
	Before Exercises		After Exercises			
	Right	Left	Right	Left	Right	Left
2	95	98	98	99	+3	+1
6	77	79	77	79	+−	+−
7	78	82	73	84	−5	+2
8	46	61	51	69	+5	+8
10	18	42	22	43	+4	+1
15	30	20	25	30	−5	+10
23	14	61	21	53	+7	−8
33	51	68	42	80	−9	+12
36	38	32	37	43	−1	+11
54	62	69	62	74	+−	+5
55	86	81	85	76	−1	−5
58	50	87	66	83	+16	−4
59	9	13	14	20	+5	+7
64	3	2	4	9	+1	+7
69	22	24	29	24	+7	+−
71	9	6	18	11	+9	+5
72	27	21	22	23	−5	+2
75	2	1	11	4	+9	+3
81	62	54	69	51	+7	−3
85	23	39	22	39	−1	+−
86	1	2	3	4	+2	+2
87	2	3	5	12	+3	+9
90	9	23	6	41	−3	+18
91	10	16	36	11	+26	−5
93	16	10	16	13	+−	+3
99	79	80	88	87	+9	+7
100	86	89	85	89	−1	+−
101	20	12	24	15	+4	+3
105	34	71	67	52	+33	−19
111	100	25	100	26	+−	+1
112	21	56	28	52	+7	−4
131	20	23	26	32	+6	+9
Average.....	37.5	42.2	41.6	44.6	+4.1	+2.4

patients before and after the visual training to ascertain if any change had occurred in the basic refraction, and we likewise followed with interest changes in the psychological reaction of the trainees toward their visual handicap, nevertheless our chief objective in this experiment was to determine if the visual training produced any significant alteration in the visual acuity of the trainees. The complete data from which conclusions on the latter point are drawn are given in table IX. Comment here is limited to statistical criticism of this data, and to observations on the reaction of the patients to the visual training.

Primarily, this study is *per se* uncontrolled. A proper control would be a group of myopes of similar age and degree of myopia whose visual acuity without correction was determined at the times of the first and second examinations and who were not subjected to visual training and did not wear glasses. However, the absence of a control group is unimportant. Every ophthalmologist will concede that within a three months' period without any treatment, a group of 103 myopes would show no significant improvement in their uncorrected vision. The one pertinent question is, therefore, are the changes in the percentage visual acuity noted in these patients of any significance? These figures disclose several points pertinent to this question.

First. The uncorrected visual acuity varied within wide limits in individuals with approximately the same degree of myopia. For example cases 1 and 14

TABLE VI.
Patients Showing Slightly Diminished Percentage Visual Acuity After Exercises.

Cases	Average Percentage Visual Acuity				Average Loss In Visual Acuity	
	Before Exercises		After Exercises			
	Right	Left	Right	Left	Right	Left
18	92	17	85	7	—7	—10
22	97	90	96	76	—1	—14
31	65	81	60	69	—5	—12
45	79	68	69	68	—10	+—
56	..	26	..	14	..	—12
76	85	77	76	77	—9	+—
77	83	78	66	74	—17	—4
83	70	44	20	40	—50	—4
84	88	96	79	79	—9	—17
108	95	91	89	75	—6	—16
Average.....	83.7	66.8	71.0	57.9	—12.7	—8.9

TABLE VII.
Summary of Results.

Status of Patient	No. and Percentage of Total Group	Average Net Change In Percentage Visual Acuity	
		Right	Left
Improvements on all four Charts.....	30 or 29.1%	24.7	29.3
Inconsistent Improvement.....	31 or 30.1%	13.0	16.4
No Essential Change.....	32 or 31.1%	+4.1	+2.4
Slightly Diminished Visual Acuity.....	10 or 9.7%	—12.7	—8.9

TABLE VIII.
Retinoscopic Findings Before and After "Visual Training."

	Before Visual Training	After Visual Training
Case 2	R. — 0.75 = + 0.25 ×90 L. — 0.25 = — 0.37 ×180	R. — 0.75 L. — 0.50 = + 0.25 ×50
Case 10	R. — 2.50 L. — 2.25	R. — 2.25 L. — 2.00
Case 12	R. — 2.50 = — 0.50 ×90 L. — 2.50	R. — 3.50 L. — 3.00 = — 0.50 ×180
Case 14	R. — 1.75 L. — 1.62	R. — 2.00 L. — 1.75
Case 15	R. — 2.75 L. — 3.75 = — 0.50 ×120	R. — 3.37 L. — 4.00 = — 0.62 ×180
Case 16	R. — 1.00 L. — 1.00	R. — 1.50 L. — 1.00
Case 17	R. — 4.25 L. — 3.00	R. — 4.00 L. — 2.50 = — 0.50 ×180
Case 18	R. — 0.75 = — 0.37 ×90 L. — 5.50	R. — 0.75 = — 0.50 ×90 L. — 5.50
Case 20	R. — 0.75 L. — 1.00	R. — 0.25 = — 0.50 ×20 L. — 0.25 = — 0.25 ×140
Case 22	R. — 0.25 ×180 L. — 0.75 = + 0.25 ×90	R. + 0.25 ×90 L. — 0.75
Case 23	R. — 2.00 = — 0.50 ×10 L. — 1.50	R. — 2.25 = — 0.25 ×180 L. — 1.50
Case 28	R. — 0.62 = — 0.25 ×180 L. — 2.00 = — 0.75 ×180	R. — 0.75 L. — 2.25 = — 0.50 ×180
Case 29	R. — 2.75 = — 1.75 ×180 L. — 2.50 = — 0.75 ×180	R. — 2.75 = — 1.50 ×180 L. — 2.50 = — 0.75 ×180
Case 30	R. — 3.00 = — 0.50 ×170 L. — 3.00 = — 0.25 ×20	R. — 4.50 L. — 4.50
Case 32	R. — 3.00 = — 0.50 ×90 L. — 3.25 = — 0.25 ×80	R. — 3.00 = — 0.50 ×90 L. — 3.00 = — 0.37 ×90
Case 33	R. — 0.75 = — 0.50 ×180 L. — 0.75 = — 0.50 ×175	R. — 1.25 = — 0.50 ×180 L. — 0.50 = — 0.25 ×180
Case 34	R. — 2.25 = — 0.75 ×165 L. — 3.50 = — 1.00 ×175	R. — 3.00 = — 0.50 ×180 L. — 4.00 = — 0.50 ×180
Case 35	R. — 3.25 = — 0.25 ×165 L. — 2.75 = — 0.50 ×160	R. — 3.50 = — 1.00 ×175 L. — 3.75
Case 37	R. — 2.0 = — 0.75 ×130 L. — 2.0 = — 0.50 ×180	R. — 3.00 L. — 3.25
Case 38	R. — 3.25 L. — 3.25 = — 0.50 ×35	R. — 2.50 = — 0.50 ×180 L. — 3.25 = — 0.50 ×35
Case 40	R. — 7.0 = — 1.0 ×180 L. — 7.0 = — 0.50 ×180	R. — 6.75 = — 1.0 ×180 L. — 6.50 = — 0.50 ×180
Case 42	R. — 2.75 L. — 2.75 = — 0.25 ×170	R. — 2.75 L. — 2.75
Case 43	R. — 2.75 L. — 2.75 = — 0.25 ×180	R. — 2.75 L. — 2.75
Case 45	R. — 0.50 L. — 0.75	R. — 0.50 L. — 0.75
Case 46	R. — 4.00 = — 0.50 ×165 L. — 4.0 = — 0.50 ×180	R. — 4.0 = — 0.50 ×180 L. — 4.0 = — 0.37 ×20
Case 50	R. — 2.50 = — 0.75 ×5 L. — 2.25 = — 0.50 ×180	R. — 2.50 L. — 2.50
Case 51	R. — 3.75 = — 0.50 ×180 L. — 3.75 = — 0.75 ×180	R. — 3.87 = — 0.50 ×180 L. — 3.87 = — 0.75 ×180
Case 52	R. — 5.0 = — 2.25 ×15 L. — 4.0 = — 2.50 ×165	R. — 5.50 = — 1.50 ×15 L. — 4.25 = — 3.25 ×165
Case 53	R. — 4.0 L. — 4.0	R. — 4.0 = — 0.50 ×180 L. — 4.50

TABLE VIII.—Continued
Retinoscopic Findings Before and After "Visual Training."

	Before Visual Training	After Visual Training
Case 54	R. —1.50 L. —1.25	R. —1.37 L. —1.25
Case 55	R. —4.0 = —0.25 ×90 L. —3.75 = —0.50 ×90	R. —4.25 = —0.50 ×90 L. —4.0 = —0.50 ×90
Case 56	R. —1.25 = +2.25 ×90 L. —2.0 = —3.50 ×165	R. —1.25 = +2.0 ×90 L. —2.0 = +3.50 ×165
Case 57	R. —2.0 L. —4.0 = —0.50 ×180	R. —2.25 L. —4.0 = —0.50 ×180
Case 59	R. —3.0 L. —3.0 = —0.25 ×180	R. —3.25 L. —3.25
Case 69	R. —1.50 = —1.25 ×15 L. —1.50 = —1.0 ×165	R. —2.0 = —0.75 ×180 L. —2.25 = —0.75 ×180
Case 71	R. —6.50 = —0.50 ×90 L. —6.50 = —0.50 ×90	R. —7.0 = —0.50 ×90 L. —6.50 = —0.50 ×90
Case 75	R. —4.0 = —3.0 ×180 L. —6.0 = —2.50 ×160	R. —4.0 = —3.0 ×180 L. —5.50 = —2.50 ×180
Case 76	R. —0.50 = —0.25 ×135 L. —0.75	R. —0.50 = —0.25 ×135 L. —0.75
Case 77	R. —0.50 ×90 L. —0.50	R. —0.75 = +0.25 ×90 L. —0.75
Case 78	R. —6.25 L. —5.50 = —0.75 ×180	R. —6.50 L. —6.25 = —0.50 ×180
Case 79	R. —1.75 = —0.25 ×180 L. —1.50 = —0.25 ×180	R. —1.75 L. —2.0
Case 81	R. —2.0 L. —2.0	R. —2.25 L. —2.0
Case 84	R. —0.75 L. —0.50	R. —1.75 L. —2.0
Case 85	R. —3.25 L. —2.0	R. —3.0 L. —1.50 = —0.75 ×180
Case 87	R. —3.50 = —0.25 ×90 L. —3.75	R. —3.25 L. —3.25 = —0.25 ×90
Case 89	R. —2.50 L. —2.75 = —0.25 ×180	R. —1.75 = —0.25 ×180 L. —1.75 = —0.25 ×180
Case 90	R. —4.25 L. —2.0 = —0.50 ×90	R. —4.50 L. —2.50 = —0.50 ×180
Case 91	R. —4.25 L. —4.50	R. —3.50 = —0.25 ×180 L. —4.25
Case 94	R. —2.50 = —0.50 ×180 L. —2.25	R. —2.50 = —0.50 ×180 L. —2.25
Case 95	R. —1.50 = —0.50 ×90 L. —2.0 = —0.25 ×90	R. —1.75 = —0.25 ×90 L. —2.0 = —0.25 ×30
Case 96	R. —1.25 = —0.50 ×20 L. —1.50 = —0.50 ×135	R. —1.25 L. —1.25
Case 97	R. —1.00 = —0.25 ×90 L. —1.00 = —0.25 ×90	R. —0.75 L. —1.0
Case 99	R. —0.50 = —0.50 ×175 L. —0.75 = —0.25 ×180	R. —1.25 = +0.50 ×75 L. —1.25 = +0.50 ×90
Case 100	R. —0.37 L. —0.37 = —0.25 ×25	R. —0.75 L. —0.75 = —0.25 ×180
Case 101	R. —2.25 = —0.50 ×95 L. —2.75 = —0.50 ×85	R. —2.50 = —0.25 ×90 L. —2.75 = —0.25 ×85
Case 103	R. —4.0 = —0.75 ×180 L. —4.50 = —0.50 ×175	R. —3.75 = —0.75 ×180 L. —5.0 = —0.50 ×175
Case 105	R. —1.25 = —0.75 ×180 L. —0.75 = —0.75 ×180	R. —1.25 = —1.0 ×180 L. —0.75 = —0.50 ×180
Case 106	R. —2.75 L. —2.0 = —0.25 ×180	R. —2.75 L. —2.50

TABLE VIII.—Continued
Retinoscopic Findings Before and After "Visual Training."

	Before Visual Training	After Visual Training
Case 107	R. −1.75 = −0.50×180 L. −2.0 = −0.25×180	R. −1.50 = −0.50×180 L. −1.75 = −0.50×180
Case 108	R. −0.37 L. −0.62	R. −0.75 L. −1.50
Case 112	R. −2.50 L. −2.50	R. −2.50 L. −2.50
Case 121	R. −3.25 = −0.25×90 L. −4.0 = −0.75×180	R. −3.75 L. −4.0 = −0.75×160
Case 122	R. −4.0 L. −4.0	R. −4.0 L. −4.0 = −0.50×90
Case 124	R. −1.50 L. −1.25 = −0.25×180	R. −1.25 = −0.50×20 L. −0.75
Case 126	R. −1.25 = −0.50×180 L. −1.25 = −0.50×180	R. −1.50 = −0.75×180 L. −1.50 = −0.50×180
Case 127	R. −3.25 = −0.25×90 L. −2.25 = −0.25×180	R. −2.75 L. −2.75
Case 131	R. −2.0 L. −1.75 = −0.25×180	R. −2.0 L. −1.75

with approximately the same degree of myopia, -1.75 sph. and -1.75 sph = -.25 cyl. x 80°, had 16/200 and 20/200 vision, while cases 63 and 79, with myopic errors of -1.75 sph. = -.25 cyl. x 180°, showed visual acuity of 20/100 +1 and 20/100. The average percentage visual acuity of these 4 patients with practically identical refraction errors was respectively 13, 24, 42 and 42, a swing of 29 points. Similar variations (table IX) occurred in all grades of myopia. The visual acuity of any myope is obviously influenced by a large subjective element, the individual interpretation of a blurred retinal image.

Second. There was often an amazing swing in the percentage visual acuity of the same individual on the same day when vision was tested on different charts. Such examples as case 5, varying from 20 to 41 percentage visual acuity, case 8, from 20 to 58, case 17 from 1 to 49 and case 57 from 8 to 73. Swings of from 20 to 30 points in the different charts were the rule rather than the exception in patients with an average percentage visual acuity in the mid-range. This swing was irregular, some patients doing better on one chart than another.

Third. The method of computing the results on the basis of a change in the percentage visual acuity weighs the scales in favor of an improvement according to the severity of the myopia. Thus a high myope with an initial 10/200 vision has a percentage visual acuity of 3, and is theoretically capable of a 97 point increase in the percentage visual acuity, while a low grade myope with 20/30 uncorrected vision has a percentage visual acuity of 92 and is susceptible of an improvement of only 8 points in the percentage visual acuity. This statistical fallacy appears to be clearly reflected in the results. Thus in Groups I and II, where the greatest improvement in the percentage visual acuity was noted, the myopia was most severe, the initial average visual acuity of both eyes being 27.3 and 23.2 respectively in the two groups. In Group III, where there was no essential change noted, the myopia was less severe, the average percentage visual acuity being 40. In Group IV, when there was an actual though not significant loss in the percentage visual acuity, the average

myopia was of low degree and the average percentage visual acuity before exercises was 75.1. In short, the lower the initial percentage visual acuity, the more room there was for improvement, and the more likely improvement would result from any educational process. The higher the initial percentage visual acuity, the less room there was for improvement and the less chance there would be for an educational procedure to produce improvement.

The first two points, the variation in visual acuity of myopes with the same refractive error and the swing in the same individual on different charts, in themselves disclose a margin of error in subjective testing sufficient to account for the average improvement observed in Groups I and II. The third point, the weighting of the scales in favor of an improvement in high myopes, may also be a factor in the improvements shown by the patients in these two groups.

However, the fact remains that approximately 60 per cent of the patients did show moderate to slight improvement in the percentage visual acuity after the visual training. The essential question is whether this low grade improvement (Groups I and II) and the occasional more spectacular individual improvement (cases 3 and 4) are to be explained entirely on the basis of individual fluctuations and a statistical presentation or is any credit to be given to the visual training to which the patients were subjected?

I have already pointed out that the average degree of improvement noted in Groups I and II was within the limit of error of subjective testing and the individual interpretation of a blurred myopic visual image. However, it was the general impression of the examining physicians that after the eye exercises a great number of the patients were more careful in the interpretation of their visual impressions. Just how far careful study of a blurred visual image will result in an improvement in the subjective visual acuity can readily be demonstrated on any aphakic individual of ordinary intelligence. In an aphakic individual with 20/15 corrected vision in each eye, the introduction of +1.00 spheres before his correction will immediately reduce the visual acuity to about 20/40. However, with a few minutes' careful study on an unknown letter chart or a broken circle chart, such an individual will be able to decipher the 20/20 line accurately. Similarly, the introduction of +2.00 spheres, giving a false myopia of -2.00 diopters, reduces vision to 20/100, but after a few minutes' study the patient can identify symbols on the 20/50 line. In short, the subjective determination of the vision of a myope on the Snellen chart is within certain limits, a test of the individual's ability to interpret correctly the blurred visual impression received on the retina. Insofar as any form of visual education aids an individual to the maximum utilization and correct interpretation of a blurred retinal image, such procedures are of value. There are obviously definite limits within which such education is possible. For example, this visual training program appears to be of little value to individuals unable to pass the visual requirements of the United States Naval Academy. There were nine such individuals in this group of trainees and only in one instance (4) was the improvement sufficient to allow the candidate to pass the Naval Academy examinations, although in one other case (3) the candidate came close to the passing level. However, the more the initial interpretation of a visual sensation is faulty, the more unstable or careless the individual is in his visual habits, the more room and hope there is for an improvement as a result of education.

The different examining physicians were impressed by a psychological improvement in a number of patients. Some patients, while exhibiting no material change in their visual acuity, were nevertheless convinced they saw better and that they used their eyes with greater satisfaction to themselves. There were no psychiatric examinations on these patients, but the examining physicians all agreed that this psychological improvement was more noticeable in those individuals who appeared somewhat emotionally unstable. It should therefore be conceded that the visual training, insofar as it produced a psychological change in the patients to their visual handicap, was of benefit to the patients.

Therefore, while it is admitted that within narrow limits there may be some educational merit to this visual training and that in impressionable individuals there may be some beneficial psychological change, these results of this study give little comfort to the advocates of this method of treating myopia. The visual gains resulting from this training were small and not constantly maintained. The visual training had no effect on the basic myopia as determined by retinoscopy. The results of this experiment do indicate that the visual training is of no value in curing myopia.

SUMMARY AND CONCLUSIONS

A series of 103 myopic individuals were selected from a total of 130 applicants. The visual acuity without correction of these patients was recorded, a cycloplegic instilled and the retinoscopic and static refractions determined. These 103 myopes were then returned to a group of optometrists and psychologists for a course of visual training designed to improve their uncorrected vision. At the end of this visual training the patients were again examined to determine what change had occurred in their uncorrected vision. It was found that 30 of these patients, or 29 per cent, showed a low-grade improvement on all charts. This improvement averaged an increase of 27 points in the percentage visual acuity. A second group of 31 patients, or 30 per cent, did not show a consistent improvement on all four charts but did show an overall improvement in both eyes which averaged 14.7 points increase in the percentage visual acuity. As far as could be determined the improvement in these two groups was not consistently maintained. A third group of 32 patients, or 31 per cent, showed practically no change in the percentage visual acuity. A fourth group of 10 patients, or 9 per cent, showed a decrease in the percentage visual acuity of 10.8 points.

The changes in the percentage visual acuity noted were found to lie within the limits of error of subjective testing of the visual acuity. Also the estimating of change on the basis of percentage visual acuity weighs the scales in favor of improvement in high myopes.

The maximum average increase noted in Group I was between one and three lines improvement in the Snellen scale. It was believed by the examiners that education in the correct interpretation of a blurred visual image was the chief factor in the improvement noted in this group. It was further believed that the exercises produced a beneficial psychological reaction in certain patients towards their visual handicap, regardless of whether an actual improvement in visual acuity had occurred.

With the possible exceptions of educating some patients to interpret blurred retinal images more carefully and of convincing some others they could see better even though there was no actual improvement, this study indicates that the visual training used on these patients was of no value for the treatment of myopia.

CHART IX.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 1		−1.75 = 20/20 +4		−1.75 = −0.50 ×180 = 20/20		
Letters	RE	16/200	13	20/200	20	+7
	LE	15/200	11	20/100	49	+38
Landolt	RE	12/200	7	20/175	26	+19
	LE	10/200	3	20/125	40	+37
E	RE	20/200	20	20/80 +2	59	+39
	LE	18/200	17	20/80	58	+41
Numbers	RE	15/200	11	20/100 +1	49	+38
	LE	12/200	7	20/70 −1	60	+53
CASE 1		**Third Test**				
Letters	RE	20/100	49	.....	..	....
	LE	20/100 −1	37	.....	..	....
Landolt	RE	20/150	31	.....	..	....
	LE	20/150	31	.....	..	....
E	RE	20/80 −2	56	.....	..	....
	LE	20/80 −2	56	.....	..	....
Numbers	RE	20/200 +1	37	.....	..	....
	LE	20/100	49	.....	..	....
CASE 2		−0.75 = +0.25 ×90 = 20/15 −4		−0.25 = −0.37 ×180 = 20/20 +4		
Letters	RE	20/20 +1	100+	20/20 −1	99−	−1
	LE	20/20 +4	100+	20/15 −2	100+	+−
Landolt	RE	20/40	84	20/30	92	+8
	LE	20/30	92	20/25	96	+4
E	RE	20/25	96	20/20 +3	100+	+4
	LE	20/20	100	20/15	100+	+
Numbers	RE	20/20 −1	100−	20/20 +2	100+	+
	LE	20/20 −1	100−	20/15 −3	100+	+
CASE 3		−0.37 = 20/15		−1.12 +20/15		
Letters	RE	20/40 −1	82	20/20 −2	100−	+18
	LE	20/60	70	20/20 −4	100−	+30
Landolt	RE	20/60 −1	69	20/45 −2	79	+10
	LE	20/85	56	20/45 +1	81	+25
E	RE	20/30	92	20/20 −4	100−	+8
	LE	20/50	76	20/25	96	+20
Numbers	RE	20/30 −2	90	20/20 −4	100−	+10
	LE	20/50	76	20/30 −1	91	+15
CASE 4		−0.50 = −0.25 = ×90 = 20/15		−0.25 = −0.50 ×60 = 20/15		
Letters	RE	20/40 +1	83	20/15	100+	+17
	LE	20/20 −1	99	20/15 −2	100+	+1
Landolt	RE	20/60 +1	70	20/25	96	+26
	LE	20/40	83	20/17.5	100+	+17
E	RE	20/40	83	20/15 −2	100+	+17
	LE	20/20 −1	100−	20/15	100+	+−
Numbers	RE	20/40 +1	83+	20/20 +2	100+	+17
	LE	20/20 −1	100−	20/15	100+	+−
CASE 5		−0.25 ×90 = 20/15		−1.25 = 20/15		
Letters	RE	20/15 −2	100+	20/15 −1	100+	+−
	LE	20/200	20	20/70	64	+44
Landolt	RE	20/20 −4	100−	20/25 −1	95	−5
	LE	20/125	37	20/175	26	−11
E	RE	20/15	100+	20/15	100+	+−
	LE	20/120	41	20/80 −2	58	+17
Numbers	RE	20/15 −3	100+	20/20 −1	100−	+−
	LE	20/200	20	17/70 −1	58	+38
CASE 6		−1.00 = 20/15		−0.75 = 20/15		
Letters	RE	20/40	83	20/30	92	+9
	LE	20/40 +2	84	20/40	83	−1
Landolt	RE	20/60 −1	70	20/85	56	−14
	LE	20/60 +1	70	20/70 −1	64	−6
E	RE	20/50	76	20/40	83	+7
	LE	20/40 −2	81	20/40 +3	89	+8
Numbers	RE	20/50 +1	77	20/40 −1	83	+6
	LE	20/40	83	20/40 −1	82	−1
CASE 7		−0.75 = 20/15 −1		−0.50 = −0.25 = 20/15		
Letters	RE	20/30 −2	91	20/30 −2	91	+−
	LE	20/25 −2	95	20/30	92	−3
Landolt	RE	20/70 −1	63	20/100	49	−14
	LE	20/70 −1	63	20/60 −1	69	+6
E	RE	20/30 −2	91	20/50 −2	75	−16
	LE	20/40	84	20/30 −1	91	+7
Numbers	RE	20/70 +2	65	20/50 +2	77	+12
	LE	20/40	84	20/40 −3	82	−2

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 8		−1.50 = −0.25 × 180 = 20/20 −4		−1.37 = −0.25 × 40 = 20/15		
Letters	RE	20/100	49	20/60 −2	68	+19
	LE	20/60 +1	71	20/50	76	+5
Landolt	RE	20/85 −1	55	20/125	37	−18
	LE	20/125	37	20/100	49	+12
E	RE	20/80	58	20/80	58	+ −
	LE	20/80	58	20/50 −2	74	+16
Numbers	RE	20/200	20	20/70	64	+44
	LE	20/50 −1	76	20/50	76	+ −
CASE 9		−2.50 = 20/20		−2.75 = −0.50 × 10 = 20/20		
Letters	RE	20/200	20	20/200	20	+ −
	LE	20/200	20	15/50	66	+46
Landolt	RE	20/200	20	20/200	20	+ −
	LE	20/200	20	15/200	15	−5
E	RE	20/200	20	20/80 −1	58	+38
	LE	20/200	20	15/70	54	+34
Numbers	RE	10/200	3	20/200	20	+17
	LE	20/200 −1	12	15/70	54	+42
CASE 9		**Third Test**				
Letters	RE	20/100	49	.....	..	....
	LE	20/100 −1	37	.....	..	....
Landolt	RE	20/150	31	.....	..	....
	LE	20/150	31	.....	..	....
E	RE	20/160	29	.....	..	....
	LE	20/120	41	.....	..	....
Numbers	RE	20/200	20	.....	..	....
	LE	20/200	20	.....	..	....
CASE 10		−2.50 = 20/15		−2.25 = 20/15		
Letters	RE	20/200	20	20/200	20	+ −
	LE	20/100 +1	53	20/100 −1	37	−16
Landolt	RE	10/200	3	15/200	15	+12
	LE	20/200	20	20/150	31	+11
E	RE	20/160 −1	28	20/120 −1	40	+12
	LE	20/80	58	20/80 −2	56	−2
Numbers	RE	20/200	20	20/200 −1	12	−8
	LE	20/200 +1	37	20/100	49	+12
CASE 12		−2.50 = −0.50 × 90 = 20/20		−2.50 = 20/20		
Letters	RE	20/100 −1	37	20/100	49	+12
	LE	20/300	8	20/100	49	+41
Landolt	RE	15/200	11	20/200	20	+9
	LE	16/200	13	20/200	3	−10
E	RE	20/100	49	20/200 +1	37	−12
	LE	20/200	20	20/200	20	+ −
Numbers	RE	15/200	11	20/200	20	+9
	LE	17/200	14	20/200 +1	37	+23
CASE 13		−0.75 = +0.50 = 20/15		−0.75 = +0.25 × 60 = 20/20		
Letters	RE	20/25 −2	94	20/15 −2	100	+6
	LE	20/60 −1	68	20/30	92	+24
Landolt	RE	20/60	70	20/25 −2	94	+24
	LE	20/85 −1	55	20/50 +1	78	+23
E	RE	20/20 −2	98	20/15 −1	100 +	+2
	LE	20/80	58	20/25 −2	94	+36
Numbers	RE	20/30	92	20/15 −2	100 +	+8
	LE	20/70 −1	63	20/30 −1	91	+28
CASE 14		−1.75 = 20/20		−1.62 = 20/20		
Letters	RE	20/200 +1	37	20/70 −1	59	+22
	LE	20/200	20	20/70 −1	59	+39
Landolt	RE	13/200	9	20/200	20	+11
	LE	18/200	7	20/125	39	+32
E	RE	20/120 −1	30	10/40 +2	55	+25
	LE	20/160 +1	24	20/120 +1	45	+21
Numbers	RE	20/200	20	15/70	52	+32
	LE	20/200	20	20/70	64	+44
CASE 15		−2.75 = 20/20 −1		−3.75 = −0.50 × 120 = 20/20 −2		
Letters	RE	20/200	20	20/100	49	+29
	LE	20/200	20	20/100 −1	37	+17
Landolt	RE	20/200	20	10/200	3	−17
	LE	20/200	20	10/200	3	−17
E	RE	20/200	20	20/200	20	+ −
	LE	20/200	20	20/200	20	+ −
Numbers	RE	20/70 −1	60	20/100	49	−11
	LE	20/200	20	20/100 +2	59	+39

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 16		−1.50 = 20/20		−1.00 = 20/20		
Letters	RE	20/60	70	20/30 −3	88	+18
	LE	20/50	77	20/30 −2	90	+13
Landolt	RE	20/50	77	20/35 −1	86	+9
	LE	20/50	77	20/35	87	+10
E	RE	20/40	84	20/25 +4	97	+13
	LE	20/40	84	20/25 −4	94	+10
Numbers	RE	20/30	93	20/30 +1	94	+1
	LE	20/30 −3	88	20/30	92	+4
CASE 17		−4.25 = 20/20 −1		−3.00 = 20/20		
Letters	RE	20/300	8	20/200	20	+12
	LE	20/100	49	20/30 −3	88	+39
Landolt	RE	6/200	1	15/200	11	+10
	LE	10/200	3	20/45	80	+77
E	RE	10/200	3	20/160	29	+26
	LE	20/160	29	20/40	84	+55
Numbers	RE	6/200	1	20/200	20	+19
	LE	8/200	1	20/40 +2	87	+86
CASE 18		−0.75 = −0.37 ×90 = 20/15		−5.50 = 20/15		
Letters	RE	20/20	100	20/30 −2	90	−10
	LE	20/300	8	10/200	3	−5
Landolt	RE	20/50	76	20/60 −1	68	−8
	LE	20/200	20	10/200	3	−17
E	RE	20/30	92	20/30 −1	91	−1
	LE	20/160	38	15/200	11	−27
Numbers	RE	20/30 −2	90	20/30 −2	90	+−
	LE	10/200	3	10/200 +1	9	+6
CASE 20		−0.75 = 20/20		−1.00 = 20/20		
Letters	RE	20/70	64	20/50 +2	80	+16
	LE	20/70	64	20/20 −3	97	+33
Landolt	RE	20/70	64	20/50 −1	75	+11
	LE	20/70	64	20/70 −1	60	−4
E	RE	20/60	70	20/30 +3	96	+26
	LE	20/50	76	20/30 −3	88	+12
Numbers	RE	20/50 −2	73	20/50	76	+3
	LE	20/50	76	20/30 −1	91	+15
CASE 20		**Third Test**				
Letters	RE	20/40	83	.....	..	.....
	LE	20/40	83	.....	..	.....
Landolt	RE	20/45	80	.....	..	.....
	LE	20/60	70	.....	..	.....
E	RE	20/30 +3	96	.....	..	.....
	LE	20/30 −2	91	.....	..	.....
Numbers	RE	20/40 −2	81	.....	..	.....
	LE	20/40 −2	81	.....	..	.....
CASE 22 LE		−0.75 = +0.25 ×90 = 20/15				
Letters	RE	20/15	100+	20/15 −2	..	....
	LE	20/30 −1	91	20/40	84	−7
Landolt	RE	20/35	88	20/40	84	−4
	LE	20/50 +2	80	20/100	49	−31
E	RE	20/15 −2	100+	20/20	100	+−
	LE	20/30	92	20/40 −1	82	−10
Numbers	RE	20/20 −1	99	20/15 −3	100	+1
	LE	20/20 −4	96	20/40 +3	89	−7
CASE 23		−2.00 = −0.50 ×10 = 20/20		−1.50 = 20/20		
Letters	RE	20/200	20	15/200	11	−9
	LE	20/80	59	20/70 −1	60	+1
Landolt	RE	10/200	3	10/70	34	+31
	LE	20/100	54	20/175	25	−29
E	RE	20/200	20	10/80	29	+9
	LE	20/60	70	20/80 +2	62	−8
Numbers	RE	20/200 −1	14	15/200	11	−3
	LE	20/70 −1	59	20/70 +1	66	+7
CASE 26		−1.25 = −0.25 ×90 = 20/20		−1.25 = −0.25 ×80 = 20/20		
Letters	RE	20/100	49	20/200	20	−29
	LE	20/70 −1	60	20/70 +1	66	+6
Landolt	RE	20/200	20	10/125	13	−7
	LE	20/100	49	20/175 −1	23	−26
E	RE	15/200	11	15/80	49	+38
	LE	20/60	70	15/160	17	−53
Numbers	RE	15/200	11	20/200 +1	37	+26
	LE	20/70 +1	66	20/100 −1	37	−29

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 27		−2.50 = −0.50 ×85 = 20/20		−2.62 = 20/20		
Letters	RE	20/200	20	10/100	20	+—
	LE	20/200	20	20/100 −1	37	+17
Landolt	RE	12/200	8	10/125	13	+5
	LE	18/200	17	20/200	20	+3
E	RE	20/200	20	10/80	38	+18
	LE	20/160	39	20/80	59	+20
Numbers	RE	12/200	8	10/70	34	+26
	LE	20/200	20	20/100	49	+29
CASE 28		−0.62 = −0.25 ×180 = 20/20		−2.00 = −0.75 ×180 = 20/20		
Letters	RE	20/30	92	20/20 −4	96	+4
	LE	20/400	3	10/30 −1	68	+65
Landolt	RE	20/35	87	20/45	80	−7
	LE	15/200	11	10/70	34	+23
E	RE	20/40	84	20/25	96	+12
	LE	20/160 +1	24	10/25	76	+52
Numbers	RE	20/30 −2	90	20/30 −3	88	−2
	LE	20/100	49	10/40 −2	56	+7
CASE 29		−2.75 = −1.75 ×180 = 20/25		−2.50 = −0.75 ×180 = 20/20		
Letters	RE	20/400	3	15/200	3	+—
	LE	20/400	3	10/70 −1	28	+25
Landolt	RE	6/200	1	10/175 −1	4	+3
	LE	10/200	3	10/100	20	+17
E	RE	10/200	3	10/160	7	+4
	LE	7/160	7	10/80	28	+21
Numbers	RE	8/200	2	10/200 +1	4	+2
	LE	10/200	3	10/70 −1	28	+25
CASE 30		−3.00 = −0.50 ×170 = 20/20		−3.00 = −0.25 ×20 = 20/20		
Letters	RE	20/200	20	20/70	64	+44
	LE	20/200	20	20/70 −1	60	+40
Landolt	RE	10/200	3	20/125	37	+34
	LE	15/200	11	20/175	25	+14
E	RE	20/200	20	20/120	41	+21
	LE	15/200	11	20/120	41	+30
Numbers	RE	12/200	8	20/200	20	+12
	LE	18/200	17	20/200	20	+3
CASE 30		**Third Test**				
Letters	RE	20/100 −1	37	.....	...	...
	LE	20/100	49	.....	...	...
Landolt	RE	17/200	14	.....	...	...
	LE	17/200	14	.....	...	...
E	RE	20/160	29	.....	...	...
	LE	18/200	7	.....	...	...
Numbers	RE	20/200 +1	37	.....	...	...
	LE	20/100	49	.....	...	...
CASE 31		−0.62 = −0.50 ×90 = 20/20		−0.75 = −0.50 ×100 = 20/20		
Letters	RE	20/60 −1	68	20/50 +2	80	+12
	LE	20/30 −2	90	20/50 −1	75	−15
Landolt	RE	20/100	49	20/175	25	−24
	LE	20/40	84	20/85	56	−28
E	RE	20/40	84	20/80 +2	62	−22
	LE	20/30 −3	88	20/60 +2	72	−16
Numbers	RE	20/70 −1	60	20/50 −1	75	+15
	LE	20/40 −1	82	20/50 −3	71	−11
CASE 32		−3.00 = −0.62 ×95 = 20/20		−3.25 = −0.25 ×80 = 20/20 −2		
Letters	RE	20/200	20	15/100 −1	27	+7
	LE	20/200	20	10/70	34	+14
Landolt	RE	20/200	20	15/200	11	−9
	LE	10/200	3	10/125 −1	11	+8
E	RE	20/160	29	15/80	49	+20
	LE	18/200	17	10/80	29	+12
Numbers	RE	20/200	20	15/100 +1	43	+23
	LE	20/200	20	10/70	34	+14
CASE 33		−0.75 = −0.50 ×180 = 20/20		−0.75 = −0.50 ×175 = 20/20		
Letters	RE	20/100	49	20/200 +1	37	−12
	LE	20/50 −1	75	20/40 +2	87	+12
Landolt	RE	20/150	31	20/150	31	+—
	LE	20/100 −1	37	20/60 −1	68	+31
E	RE	20/80	59	20/120	41	−18
	LE	20/40 −1	83	20/40	84	+1
Numbers	RE	20/70	64	20/100	49	−15
	LE	20/50 −1	75	20/40 −1	82	+7

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 34		−2.25 = −0.75 ×65 = 20/20		−3.50 = −1.00 ×175 = 20/15 −4		
Letters	RE	12/200	8	20/100 +1	54	+46
	LE	16/200	13	20/70 −1	60	+47
Landolt	RE	10/200	3	20/175 −1	23	+20
	LE	6/250	1	20/200	20	+19
E	RE	20/200	20	20/120	41	+21
	LE	20/200	20	20/160 −1	28	+8
Numbers	RE	12/200	8	20/200	20	+12
	LE	12/200	8	20/100	49	+41
CASE 34		**Third Test**				
Letters	RE	15/200	11	.....	..	.....
	LE	10/200	3	.....	..	.....
Landolt	RE	15/175	16	.....	..	.....
	LE	15/200	11	.....	..	.....
E	RE	20/200	20	.....	..	.....
	LE	15/200	11	.....	..	.....
Numbers	RE	20/200	20	.....	..	.....
	LE	12/200	8	.....	..	.....
CASE 35		−3.25 = −0.25 ×165 = 20/20		−2.75 = −0.50 ×160 = 20/20		
Letters	RE	20/200	20	10/100	20	+ −
	LE	20/300	8	20/100	49	+41
Landolt	RE	17/200	14	10/200	3	−11
	LE	8/200	1	20/175	25	+24
E	RE	20/200	20	10/80 −2	23	+3
	LE	20/200	20	20/160 −1	28	+5
Numbers	RE	20/200 −1	14	10/70	34	+20
	LE	20/200 −1	14	20/200	20	+6
CASE 36		−1.00 = −0.50 ×30 = 20/15		−1.25 = 20/20		
Letters	RE	20/70 −2	54	20/100 −1	37	−17
	LE	20/200	20	20/100	49	+29
Landolt	RE	20/150	31	20/150	31	+ −
	LE	15/200	11	20/150	31	+20
E	RE	20/160	29	20/120	41	+12
	LE	20/80	59	20/80 −2	56	−3
Numbers	RE	20/200 +1	37	20/100 −1	37	+ −
	LE	20/200 +1	37	20/100 −1	37	+ −
CASE 37		−2.00 = −0.75 ×130 = 20/20		−2.00 = 0.50 ×180 = 20/15 −3		
Letters	RE	20/400	3	20/70	64	+61
	LE	17/400	1	20/70 −1	60	+59
Landolt	RE	9/150	6	20/200	20	+14
	LE	9/200	2	15/200	11	+9
E	RE	15/200	11	20/120 −1	30	+19
	LE	12/200	8	20/120	41	+33
Numbers	RE	9/200	1	20/200 +1	37	+36
	LE	8/200	1	20/200 +1	37	+36
CASE 37		**Third Test**				
Letters	RE	20/200	20	.....	..	.....
	LE	20/100 −1	37	.....	..	.....
Landolt	RE	20/175 −1	23	.....	..	.....
	LE	20/175 −1	23	.....	..	.....
E	RE	20/120 −2	27	.....	..	.....
	LE	20/120 −2	27	.....	..	.....
Numbers	RE	20/100 −1	37	.....	..	.....
	LE	20/100	49	.....	..	.....
CASE 38		−3.25 = 20/25		−3.25 = −0.50 ×35 = 20/30 +2		
Letters	RE	15/400	1	10/200	3	+2
	LE	15/400	1	10/70 −1	28	+27
Landolt	RE	8/200	1	9/200	1	+ −
	LE	8/200	1	10/175	5	+4
E	RE	8/200	1	10/80	38	+37
	LE	9/200	1	10/80 −1	28	+27
Numbers	RE	6/100 −1	6	10/70	34	+28
	LE	8/200	1	11/200	5	+4
CASE 39		−3.00 = 20/20		−3.00 = −0.25 ×90 = 20/20		
Letters	RE	12/400	1	15/200	11	+10
	LE	20/400	3	15/200	11	+8
Landolt	RE	9/200	1	10/200	3	+2
	LE	10/200	3	10/100 −1	14	+11
E	RE	17/200	14	10/80	29	+15
	LE	9/200	1	10/80	29	+28
Numbers	RE	6/200	1	15/200 −1	6	+5
	LE	16/200	13	12/200	8	−5

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 40		−7.00 = −1.00 ×180 = 20/20		−7.00 = −1.00 ×180 = 20/20		
Letters	RE	8/200	1	20/200	20	+19
	LE	9/200	1	10/200	3	+2
Landolt	RE	7/200	1	15/175 −1	11	+10
	LE	5/200	1	10/175 −1	5	+4
E	RE	5/200	1	10/80	29	+28
	LE	5/200	1	10/80	29	+28
Numbers	RE	5/200	1	15/200 −1	6	+5
	LE	10/200	3	10/100 +2	48	+45
CASE 41		−1.50 = −0.25 ×175 = 20/20		−1.50 = −0.25 ×180 = 20/20		
Letters	RE	14/200	10	20/40 −1	82	+72
	LE	10/70 −1	28	20/100 −1	37	+9
Landolt	RE	12/200	8	20/125	39	+31
	LE	10/125	13	20/175	25	+12
E	RE	17/160	24	20/60 +4	75	+51
	LE	19/100	47	20/120 −1	30	−17
Numbers	RE	17/100	41	20/50 −2	73	+32
	LE	10/70	34	20/100 −2	35	+1
CASE 41		**Third Test**				
Letters	RE	20/200	20	.....	.....	.....
	LE	20/200	20	.....	.....	.....
Landolt	RE	10/200	3	.....	.....	.....
	LE	20/200	20	.....	.....	.....
E	RE	20/200	20	.....	.....	.....
	LE	20/120 −1	34	.....	.....	.....
Numbers	RE	20/200 −1	12	.....	.....	.....
	LE	20/200	20	.....	.....	.....
CASE 42		−2.75 = 20/15 −2		−2.75 = −0.25 ×170 = 20/15 −3		
Letters	RE	20/100 −1	37	20/200	20	−17
	LE	10/100	20	15/100	33	+13
Landolt	RE	13/200	9	10/85 −1	23	+14
	LE	16/200	13	15/200	11	−2
E	RE	20/200	20	20/200	20	+—
	LE	15/200	11	20/200	20	+9
Numbers	RE	18/200	17	20/200	20	+3
	LE	10/100 −1	14	15/100	33	+19
CASE 44		−2.75 = −0.25 ×180 = 20/20		−2.25 = −0.25 ×70 = 20/20		
Letters	RE	15/200	11	20/200	20	+9
	LE	20/200	20	20/200 +1	37	+17
Landolt	RE	10/200	3	10/175	5	+2
	LE	7/200	1	10/60	41	+40
E	RE	11/200	5	20/120	41	+36
	LE	17/200	14	10/30 +1	71	+57
Numbers	RE	18/200	17	20/200	20	+3
	LE	16/200	13	20/200	20	+7
CASE 45		−0.50 = 20/20		−0.75 = 20/20		
Letters	RE	20/30	92	20/50	76	−16
	LE	20/50 −2	73	20/40 −2	81	+8
Landolt	RE	20/70	64	20/125	39	−25
	LE	20/100 −1	44	20/125 −1	35	−9
E	RE	20/40	84	20/50 +2	80	−4
	LE	20/50	76	20/50	76	+—
Numbers	RE	20/50	76	20/40 −3	80	+4
	LE	20/40	84	20/50 +2	80	−4
CASE 46		−4.00 = −0.50 ×165 = 20/20		−4.00 = −0.50 ×180 = 20/20		
Letters	RE	15/200	11	10/200 −1	5	−6
	LE	20/200	20	17/200	14	−6
Landolt	RE	8/200	1	10/150	8	+7
	LE	19/200	19	10/150	8	−11
E	RE	8/160	3	10/120 +2	12	+9
	LE	15/160	20	10/80	29	+9
Numbers	RE	10/100 −1	14	10/70 +2	37	+23
	LE	15/200	11	10/100	20	+9
CASE 48		−6.00 = 20/20 −1		−5.25 = 20/20 −1		
Letters	RE	20/300	8	10/200	3	−5
	LE	20/400	3	10/70	34	+31
Landolt	RE	7/200	1	10/200	3	+2
	LE	7/200	1	10/125 −1	11	+10
E	RE	11/200	5	10/160	7	+2
	LE	12/200	8	10/120	14	+6
Numbers	RE	8/200	1	10/70 −1	28	+27
	LE	10/200	3	10/70 −1	28	+25

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 49		−3.75 = −0.50×180 = 20/20		−2.00 = −0.50×180 = 20/20		
Letters	RE	20/400	3	10/200	3	+—
	LE	20/400	3	10/100	37	+34
Landolt	RE	8/200	1	10/200	3	+2
	LE	9/175	4	10/150	8	+4
E	RE	7/200	1	10/120 +1	17	+16
	LE	8/200	1	10/80 −1	24	+23
Numbers	RE	7/100	9	10/200	3	−6
	LE	8/200	1	10/70 −1	28	+27
CASE 50		−2.50 = −0.75×5 = 20/20		−2.25 = −0.50×180 = 20/30 +2		
Letters	RE	18/200	17	20/100 −1	37	+20
	LE	18/200	17	20/200	20	+3
Landolt	RE	12/200	8	20/175 −1	23	+15
	LE	12/200	8	15/200	11	+3
E	RE	20/160	29	20/160	29	+—
	LE	20/160	29	20/200	20	−9
Numbers	RE	15/200	11	20/100	49	+38
	LE	15/200	11	15/100	33	+22
CASE 51		−3.75 = −0.50×180 = 20/15		−3.75 = −0.75×180 = 20/15 −4		
Letters	RE	12/200	8	10/200	3	−5
	LE	10/200	3	10/100	20	+17
Landolt	RE	10/200	3	10/175 −1	4	+1
	LE	8/200	1	10/150	8	+7
E	RE	15/200	11	10/120	14	+3
	LE	12/200	8	10/80	29	+21
Numbers	RE	12/200	8	10/200 +1	9	+1
	LE	6/200	1	10/200 +1	9	+8
CASE 52		−5.00 = −2.25×15 = 20/30 +3		−4.00 = −2.50×165 = 20/20 −3		
Letters	RE	15/400	1	10/200	3	+2
	LE	20/400	3	20/100 −1	37	+34
Landolt	RE	9/200	1	10/125	13	+12
	LE	12/200	8	20/200	20	+12
E	RE	8/200	1	20/160 −2	23	+22
	LE	8/200	1	20/160 +1	38	+37
Numbers	RE	8/200	1	20/200	20	+19
	LE	10/200	3	20/200 +1	37	+34
CASE 52		**Third Test**				
Letters	RE	10/200	3	.....	...	.....
	LE	10/200	3	.....	...	.....
Landolt	RE	7/175	1	.....	...	.....
	LE	10/175	5	.....	...	.....
E	RE	10/160	6	.....	...	.....
	LE	10/120	9	.....	...	.....
Numbers	RE	10/200	3	.....	...	.....
	LE	10/200	3	.....	...	.....
CASE 53		−4.00 = 20/20		−4.00 = 20/20		
Letters	RE	10/200	3	20/70	64	+61
	LE	8/200	1	20/70 +1	66	+65
Landolt	RE	15/200	11	20/85	56	+45
	LE	10/200	3	20/125	39	+36
E	RE	14/200	10	20/160 +1	38	+28
	LE	9/200	1	20/160	29	+28
Numbers	RE	12/200	8	20/100 +2	49	+41
	LE	10/200	3	20/100	59	+56
CASE 54		−1.50 = 20/15		−1.25 = 20/15		
Letters	RE	20/50 +1	78	20/50	76	−2
	LE	20/50 +2	80	20/50 +1	78	−2
Landolt	RE	20/125	39	20/100	49	+10
	LE	20/80	56	20/85	56	+—
E	RE	20/60	70	20/80	59	−11
	LE	20/50	76	20/40 −3	79	+3
Numbers	RE	20/70 −1	60	20/70 +1	66	+6
	LE	20/70 +1	66	20/50 +2	80	+14
CASE 55		−4.00 = −0.25×90 = 20/20		−3.75 = −0.50×90 = 20/20		
Letters	RE	20/100	49	20/100 −1	37	−12
	LE	20/200	20	10/200	20	+—
Landolt	RE	10/200	3	15/200	11	+8
	LE	10/200	3	10/175	5	+2
E	RE	20/200	20	20/160	29	+9
	LE	20/120	41	10/120	14	−27
Numbers	RE	20/200 −1	14	12/200	8	−6
	LE	18/200	17	10/100 +1	37	+20

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 56		−1.25 = −2.25 ×90 = 20/30		−2.00 = −3.50 ×165 = 20/40		
Letters	RE					
	LE	20/100	49	10/100	20	−29
Landolt	RE					
	LE	20/200	20	10/175	5	−15
E	RE					
	LE	20/200	20	10/120	14	−6
Numbers	RE					
	LE	20/300	8	7/100 −1	14	+6
CASE 57		−2.00 = 20/20		−4.00 = −0.50 ×180 = 20/20		
Letters	RE	20/200	20	20/50 −2	73	+53
	LE	9/200	1	20/70 −1	60	+59
Landolt	RE	20/200	20	20/85	56	+36
	LE	8/200	1	20/50	76	+75
E	RE	20/120	41	20/30 −3	88	+47
	LE	12/200	8	20/40 −2	81	+73
Numbers	RE	20/100	49	20/50 −2	73	+24
	LE	12/200	8	20/70	64	+56
CASE 57		**Third Test**				
Letters	RE	20/70	64			
	LE	20/200	20			
Landolt	RE	10/150	8			
	LE	10/175	5			
E	RE	20/80	50			
	LE	10/160	6			
Numbers	RE	20/50 −2	73			
	LE	10/200	3			
CASE 58		−1.00 = −0.25 ×180 = 20/20		−0.50 = 20/20		
Letters	RE	20/70 −1	60	20/40 +2	87	+27
	LE	20/30	92	20/40 −1	82	−10
Landolt	RE	20/125	39	20/200	20	−19
	LE	20/50	76	20/60 −1	68	−8
E	RE	20/80 +2	62	20/50	76	+14
	LE	20/25 −3	92	20/30 −1	91	−1
Numbers	RE	20/100 −1	37	20/40 −1	82	+45
	LE	20/30 −3	88	20/30	92	+4
CASE 59		−3.00 = 20/20		−3.00 = −0.25 ×180 = 20/20		
Letters	RE	15/200	11	10/100	20	+9
	LE	20/200	20	10/100 +1	37	+17
Landolt	RE	10/200	3	10/175	5	+2
	LE	10/200	3	10/175	5	+2
E	RE	20/200	20	10/80	29	+9
	LE	20/200	20	10/80 −1	24	+4
Numbers	RE	10/200	3	10/200	3	+−
	LE	10/200	3	10/100 −1	14	+11
CASE 60		−1.00 = −0.25 ×15 = 20/20		−2.25 = −0.25 ×90 = 20/20		
Letters	RE	20/100 +1	54	20/50 −1	75	+21
	LE	20/200	20	20/50	77	+57
Landolt	RE	18/200	17	20/60 −1	68	+51
	LE	13/200	9	20/85	56	+47
E	RE	20/80	59	20/80 −1	55	−4
	LE	20/200	20	20/120	41	+21
Numbers	RE	20/70	64	20/100	49	−15
	LE	20/200	20	20/100	49	+29
CASE 60		**Third Test**				
Letters	RE	20/70	64			
	LE	10/70 +1	40			
Landolt	RE	20/150	31			
	LE	5/175	1			
E	RE	20/80	59			
	LE	20/160	29			
Numbers	RE	20/70 −1	59			
	LE	10/70	34			
CASE 63		−1.75 = −0.25 ×180 = 20/20		−1.50 = −0.25 ×180 = 20/20		
Letters	RE	20/100 +1	54	20/40 −1	82	+28
	LE	20/100	49	20/50 +2	80	+31
Landolt	RE	20/200	20	20/85 +1	61	+41
	LE	20/125 −1	23	20/85 −1	55	+32
E	RE	20/80	59	20/30 −5	86	+27
	LE	20/60	70	20/50	76	+6
Numbers	RE	20/200 +1	37	20/30 −3	88	+51
	LE	20/100	49	15/70 +2	56	+7

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 63		**Third Test**				
Letters	RE	20/50 −3	72	.....	..	....
	LE	20/50 −3	72	.....	..	....
Landolt	RE	20/100 −1	37	.....	..	....
	LE	20/85	56	.....	..	....
E	RE	20/60 −2	66	.....	..	....
	LE	20/50 −2	74	.....	..	....
Numbers	RE	20/50 −3	72	.....	..	....
	LE	20/70 −1	59	.....	..	....
CASE 64		−7.50 = 20/20 −4		−7.00 = −0.75 × 80 = 20/20 −1		
Letters	RE	7/100 −1	7	10/200	3	−4
	LE	5/100	3	10/100 −1	14	+11
Landolt	RE	7/200	1	10/200	3	+2
	LE	5/125	1	10/175	5	+4
E	RE	10/200	3	10/160	7	+4
	LE	8/160	3	10/160	14	+11
Numbers	RE	10/200	3	10/200	3	+ −
	LE	5/100	3	10/200	3	+ −
CASE 65		−4.00 = 20/15 −4		−3.50 = 20/15 −1		
Letters	RE	10/100	20	10/50 −2	35	+15
	LE	9/100	35	10/70 −1	28	−7
Landolt	RE	10/175	5	10/125	8	+3
	LE	17/200	14	10/85	26	+12
E	RE	6/50 −3	41	10/60 −2	24	−17
	LE	18/200	17	10/60	41	+24
Numbers	RE	14/200 −1	6	10/70 +1	41	+35
	LE	17/200 −1	8	10/70	34	+26
CASE 66		−3.50 = 20/20		−3.00 = −0.50 × 20 = 20/15		
Letters	RE	10/100	20	15/100 +1	42	+22
	LE	10/100	20	15/70 −1	51	+31
Landolt	RE	15/150	20	15/175	11	−9
	LE	15/175	16	15/150	20	+4
E	RE	20/120 −1	30	20/120	41	+11
	LE	20/160	29	20/120 +2	45	+16
Numbers	RE	20/200 −1	14	20/70 −1	60	+46
	LE	15/100 −1	27	20/70 +2	69	+42
CASE 67		−9.50 = 2.00 × 50 = 20/50		−8.50 = −4.50 × 140 = 20/50 +2		
Letters	RE	4/70	5	10/100	20	+15
	LE	5/100	3	10/100 −1	14	+11
Landolt	RE	4/125	1	10/175	5	+4
	LE	4/85	1	10/200	3	+2
E	RE	3/80	1	10/120	14	+13
	LE	5/80	8	10/80 −1	24	+16
Numbers	RE	5/200	1	10/200	3	+2
	LE	4/70 −1	4	10/100 −1	14	+10
CASE 68		−3.62 = −1.00 × 10 = 20/15 −2		−3.75 = −1.00 × 170 = 20/20 +2		
Letters	RE	10/200	3	10/70 −1	28	+25
	LE	7/100	10	10/70 −1	28	+18
Landolt	RE	12/125 −1	14	10/85	26	+12
	LE	12/125	20	10/70 −1	28	+8
E	RE	20/160 −1	24	10/80	29	+5
	LE	20/160 −1	24	10/60 −2	24	+ −
Numbers	RE	20/200 −1	14	10/70 +2	47	+33
	LE	20/200 −1	14	10/70 +1	41	+27
CASE 69		−1.50 = −1.25 × 15 = 20/20 +4		−1.50 = −1.00 × 165 = 20/20 −1		
Letters	RE	20/200	20	20/200 +1	37	+17
	LE	17/100	34	15/200	11	−23
Landolt	RE	13/175	10	15/200	11	+1
	LE	18/175	14	20/175	23	+9
E	RE	20/160 −1	24	20/160	29	+5
	LE	20/160	29	20/120	41	+12
Numbers	RE	17/100 −1	34	20/200 +1	37	+3
	LE	20/200	20	20/200	20	+ −
CASE 70		−1.25 = −0.50 × 90 = 20/20 +4		−1.25 = −0.50 × 90 = 20/20		
Letters	RE	20/100 −1	37	20/70 +1	66	+29
	LE	20/100 −1	37	20/70 −1	60	+23
Landolt	RE	20/125	39	20/125	39	+ −
	LE	20/175	25	20/125	39	+14
E	RE	20/120 +2	46	20/120	41	−5
	LE	20/120	41	20/80	59	+18
Numbers	RE	20/200	20	20/70 −1	60	+40
	LE	20/200 +1	37	20/70 −1	60	+23

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 70		**Third Test**				
Letters	RE	20/70 +1	69	.....	..	.....
	LE	20/70 −1	59	.....	..	.....
Landolt	RE	20/100 −1	37	.....	..	.....
	LE	20/125 −1	30	.....	..	.....
E	RE	20/80	59	.....	..	.....
	LE	20/80 +2	62	.....	..	.....
Numbers	RE	20/70	64	.....	..	.....
	LE	20/70 +1	69	.....	..	.....
CASE 71		−6.50 = −0.50 ×90 = 20/20 +3		−6.50 = −0.50 ×90 = 20/20		
Letters	RE	7/100 −1	8	15/100 −1	27	+19
	LE	7/70 −1	14	10/100	20	+6
Landolt	RE	8/175	1	10/200	3	+2
	LE	6/125	2	10/175 −1	3	+1
E	RE	10/80 −2	23	10/120	9	−14
	LE	6/120	3	10/160	15	+12
Numbers	RE	10/200	3	15/100	33	+30
	LE	10/200	3	10/200 +1	5	+2
CASE 72		−2.25 = −0.75 ×180 = 20/20		−2.50 = −0.50 ×180 = 20/20		
Letters	RE	20/200	20	20/200	20	+−
	LE	20/200	20	20/200	20	+−
Landolt	RE	20/200	20	15/200	11	−9
	LE	20/200	20	15/200	11	−9
E	RE	20/160	29	20/160 −1	24	−5
	LE	20/160 −1	24	20/120	41	+17
Numbers	RE	20/200 +1	37	20/200 +1	37	+−
	LE	20/200	20	20/200	20	+−
CASE 74		−2.50 = −0.25 ×180 = 20/20 −1		−1.75 = −0.52 ×5 = 20/20		
Letters	RE	10/100 +1	37	20/200	20	−17
	LE	15/100 −1	27	20/70 −1	60	+33
Landolt	RE	15/200	11	20/175	25	+14
	LE	15/175	16	20/150	31	+15
E	RE	10/60 −2	24	20/120	41	+17
	LE	15/80 −2	35	20/80	59	+24
Numbers	RE	15/100 −1	27	20/200 +1	37	+10
	LE	15/100 −1	27	20/100 −1	37	+10
CASE 75		−4.00 = −3.00 ×180 = 20/20		−5.50 = −2.50 ×180 = 20/30 +1		
Letters	RE	5/100	3	10/100 −1	14	+11
	LE	6/200	1	10/200	3	+2
Landolt	RE	6/175 −1	1	10/200	3	+2
	LE	5/175	1	6/200	1	+−
E	RE	10/160 −1	4	10/80 −1	24	+20
	LE	5/160	1	10/160	7	+6
Numbers	RE	10/200 −1	1	8/200	3	+2
	LE	6/200 −1	1	1/200	3	+2
CASE 76		−0.50 = −0.25 ×135 = 20/20		−0.75 = 20/15 −4		
Letters	RE	20/30	92	20/40 +2	87	−5
	LE	20/40 +3	89	20/40	84	−5
Landolt	RE	20/85	56	20/85	56	+−
	LE	20/85	56	20/85	56	+−
E	RE	20/30 +1	93	20/40 −1	82	−11
	LE	20/40	84	20/40 +1	85	+1
Numbers	RE	20/30 −2	90	20/40 −3	79	−11
	LE	20/40 −3	79	20/40 −2	81	+2
CASE 77		−0.50 ×90 = 20/20		−0.50 = 20/15		
Letters	RE	20/40 +3	89	20/70 +1	66	−23
	LE	20/40 −2	81	20/40 −2	81	+−
Landolt	RE	20/45	80	20/85 +2	60	−20
	LE	20/60 −1	68	20/70	64	−4
E	RE	20/40 −2	61	20/60 +3	74	−7
	LE	20/60	70	20/40	89	+19
Numbers	RE	20/30 −3	88	20/70 +1	66	−22
	LE	20/40 −2	81	20/70	64	−17
CASE 78		−6.25 = 20/20		−5.50 = −0.75 ×180 = 20/25		
Letters	RE	6/100 −1	3	20/100 +1	54	+51
	LE	8/100	13	15/100	33	+20
Landolt	RE	6/150	1	20/175	25	+24
	LE	6/125 −1	3	10/125	13	+10
E	RE	6/80	7	20/80 +2	62	+55
	LE	10/160	7	10/80 −2	23	+16
Numbers	RE	8/100	13	20/100	49	+36
	LE	7/100 −1	6	10/100 +1	37	+31

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 79		−1.75 = −0.25 × 180 = 20/20		−1.50 = −0.50 × 180 = 20/20		
Letters	RE	20/100	49	20/40	84	+35
	LE	20/100 +1	54	20/40 −2	81	+27
Landolt	RE	20/175 −1	23	20/70 −1	60	+37
	LE	20/125	39	20/200	20	−19
E	RE	20/80	59	20/20	100	+41
	LE	20/80	59	20/80	59	+ −
Numbers	RE	20/200 −1	37	20/60 −1	68	+31
	LE	20/50 −2	73	20/60 −1	68	−5
CASE 79		**Third Test**				
Letters	RE	20/200	20	.....	...	.....
	LE	15/200	11	.....	...	.....
Landolt	RE	20/175 −1	23	.....	...	.....
	LE	20/175	25	.....	...	.....
E	RE	10/120 +1	45	.....	...	.....
	LE	20/80 +2	62	.....	...	.....
Numbers	RE	18/200	17	.....	...	.....
	LE	20/100 −1	37	.....	...	.....
CASE 81		−2.00 = 20/15		−2.00 = 20/15		
Letters	RE	20/50	76	20/40 +1	86	+10
	LE	20/70	64	20/70 +1	66	+2
Landolt	RE	20/100	49	20/150	31	−18
	LE	20/150 +1	40	20/150	31	−9
E	RE	20/80	59	20/40	84	+25
	LE	20/80 −2	56	20/80	59	+3
Numbers	RE	20/70	64	20/50 −2	73	+9
	LE	20/100 +1	54	20/100	49	−5
CASE 83		−3.50 = 20/20		−3.25 = 20/20		
Letters	RE	20/40 −1	82	15/100 −1	27	−55
	LE	20/200	20	15/100 +1	39	+19
Landolt	RE	20/85	61	15/125 −1	23	−38
	LE	20/125	39	15/175	16	−23
E	RE	20/80	59	15/120	23	−36
	LE	20/120	41	15/80 +2	64	+23
Numbers	RE	20/50	76	15/200 −1	7	−69
	LE	20/50	76	15/200 −1	7	−69
CASE 84		−0.75 = 20/20		−0.50 = 20/20		
Letters	RE	20/30	92	20/20 −2	90	−2
	LE	20/30	92	20/150	76	−16
Landolt	RE	20/50	76	20/70 −1	60	−16
	LE	20/40	84	20/70 −1	60	−24
E	RE	20/30	92	20/40	84	−8
	LE	20/25	96	20/30 +2	95	−1
Numbers	RE	20/30	92	20/40 −1	82	−10
	LE	20/30	92	20/40	84	−8
CASE 85		−3.25 = 20/20		−2.00 = 20/20		
Letters	RE	20/200	20	10/100 −1	14	−6
	LE	20/100	49	20/20 −1	60	+11
Landolt	RE	15/200	11	10/100 −1	14	+3
	LE	18/200	17	20/125 −1	23	+6
E	RE	20/200 +1	57	10/80 −1	24	−33
	LE	20/120	41	20/80	59	+18
Numbers	RE	10/200	3	10/100 +1	37	+34
	LE	20/100	49	20/100 +1	54	+5
CASE 86		−5.50 = −0.50 × 180 = 20/20		−5.25 = 0.50 × 180 = 20/20		
Letters	RE	8/200	1	10/200	3	+2
	LE	10/200	3	10/200	3	+ −
Landolt	RE	5/200	1	10/200	3	+2
	LE	6/200	1	10/175 −1	4	+3
E	RE	7/200	1	10/160 −1	5	+4
	LE	7/200	1	10/160 −1	5	+4
Numbers	RE	6/200	1	10/200 −1	1	+ −
	LE	7/200	1	10/200	3	+2
CASE 87		−3.50 = −0.25 × 90 = 20/20		−3.75 = 20/15		
Letters	RE	9/200	1	10/200	3	+2
	LE	5/70 −1	5	10/100 −1	14	+9
Landolt	RE	6/200	1	5/200	1	+ −
	LE	5/200	1	10/175	5	+4
E	RE	11/160 −1	5	10/200	3	−2
	LE	12/160	5	10/120	15	+10
Numbers	RE	10/200 −1	1	10/200 +1	14	+13
	LE	10/200 −1	1	10/200 +1	14	+13

CHART IX.—Continued.

Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 88		−3.00 = −0.75 × 180 = 20/20 +4		−2.50 = −0.62 × 180 = 20/20 +4		
Letters	RE	15/200	11	15/100	33	+22
	LE	10/100 −1	14	20/100	49	+35
Landolt	RE	7/125	5	10/200	3	−2
	LE	10/175	5	20/200	20	+15
E	RE	10/160	14	15/160	10	−4
	LE	10/120	15	20/120 −1	34	+19
Numbers	RE	10/200	3	15/200 +1	15	+12
	LE	10/70	34	20/100 −1	37	+3
CASE 89		−2.50 = 20/15 −1		−2.75 = −0.25 × 180 = 20/15		
Letters	RE	15/200	11	20/40 −2	81	+70
	LE	15/100 +1	37	20/50	76	+39
Landolt	RE	10/175	5	20/70 −1	60	+55
	LE	10/175 −1	4	20/85	56	+52
E	RE	20/200	20	20/50 −2	73	+53
	LE	15/200	11	20/40 −3	79	+68
Numbers	RE	10/70	34	20/50 −3	71	+37
	LE	10/200 +1	12	20/50 −2	73	+61
CASE 90		−4.25 = 20/20		−2.00 = −0.50 × 90 = 20/15		
Letters	RE	10/200	3	10/200	3	+ —
	LE	15/100	33	20/200	20	−13
Landolt	RE	6/200	5	10/175 −1	4	−1
	LE	10/175	5	20/100	49	+44
E	RE	12/160	27	10/120	14	−13
	LE	15/80 −2	27	20/80	58	+31
Numbers	RE	10/200	3	10/200	3	+ —
	LE	15/100 −1	27	20/100 −1	37	+10
CASE 90		**Third Test**				
Letters	RE	12/200	8	.....	..	....
	LE	17/100	34	.....	..	....
Landolt	RE	10/175	5	.....	..	....
	LE	10/175	5	.....	..	....
E	RE	10/160	7	.....	..	....
	LE	20/200	20	.....	..	....
Numbers	RE	12/200	8	.....	..	....
	LE	20/200	20	.....	..	....
CASE 91		−4.25 = 20/20		−4.50 = 20/20		
Letters	RE	10/200	3	20/100	49	+46
	LE	10/200	3	10/100	20	+17
Landolt	RE	5/100	3	15/200	11	+8
	LE	5/100	3	12/200	8	+5
E	RE	10/120	14	20/120 −1	34	+20
	LE	10/120 −1	11	10/120	14	+3
Numbers	RE	20/200	20	20/100	49	+29
	LE	20/200 +1	37	10/200	3	−34
CASE 93		−4.25 = −0.25 × 90 = 20/20		−4.00 = −0.25 × 90 = 20/20		
Letters	RE	8/100 −1	8	20/200	20	+12
	LE	12/100 −1	23	5/50	20	−3
Landolt	RE	13/200	9	5/85	5	−4
	LE	13/175	10	5/100 −1	1	−9
E	RE	13/120 +1	35	10/80 −1	24	−11
	LE	10/200 +1	5	10/120 +1	17	+12
Numbers	RE	5/100	3	12/200	8	+5
	LE	10/200	3	10/200 +1	14	+11
CASE 94		−2.50 = −0.50 × 180 = 20/15		−2.25 = 20/20		
Letters	RE	20/200	20	20/70	64	+44
	LE	20/200	20	20/70 −1	60	+40
Landolt	RE	12/200	8	20/125	39	+31
	LE	10/85	26	20/85	56	+30
E	RE	15/200	11	20/60 +3	74	+63
	LE	20/120 −2	28	20/60 +2	72	+44
Numbers	RE	15/200 −1	7	20/100 −1	37	+30
	LE	20/100 −1	37	20/100 −1	37	+ —
CASE 95		−1.50 = −0.50 × 90 = 20/30 +4		−2.00 = −0.25 × 90 = 20/30		
Letters	RE	20/200	20	25/40 +1	86	+66
	LE	10/70 −1	28	20/50 +1	78	+50
Landolt	RE	10/125 −1	10	20/125	39	+29
	LE	10/125 −1	10	20/150	31	+21
E	RE	20/160	29	20/50	76	+47
	LE	10/60	41	20/60 +1	71	+30
Numbers	RE	15/200	11	20/40 +1	86	+75
	LE	10/100 −1	14	20/70 −1	60	+46

CHART IX.—Continued.
Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 96		−1.25 = −0.50×20 = 20/20		−1.50 = −0.50×135 = 20/20 +2		
Letters	RE	20/70	64	20/70	64	+—
	LE	20/100	49	20/50	77	+28
Landolt	RE	20/175 −1	23	20/100	49	+26
	LE	20/200	20	20/85	56	+36
E	RE	20/60 +2	72	20/60 +3	74	+2
	LE	20/80	59	20/50	77	+18
Numbers	RE	20/70 +2	69	20/40 −2	81	+12
	LE	20/100	49	20/40 −3	79	+30
CASE 97		−1.00 = −0.25×90 = 20/15		−1.00 = −0.25×180 = 20/15		
Letters	RE	20/100	49	20/20 −3	97	+48
	LE	20/100 +1	54	20/20 −4	96	+42
Landolt	RE	20/175	25	20/85	56	+31
	LE	20/175	25	20/60	70	+45
E	RE	20/80	59	20/40	84	+25
	LE	20/80	59	20/30	97	+38
Numbers	RE	20/200 +1	37	20/30 −2	90	+53
	LE	20/100 −1	37	20/40 +2	87	+50
CASE 97		**Third Test**				
Letters	RE	20/30	92	.....	.....	.....
	LE	20/70	64	.....	.....	.....
Landolt	RE	20/70 −1	60	.....	.....	.....
	LE	20/100 +1	54	.....	.....	.....
E	RE	20/50 +1	78	.....	.....	.....
	LE	20/60 +1	70	.....	.....	.....
Numbers	RE	20/100	49	.....	.....	.....
	LE	20/70	64	.....	.....	.....
CASE 98		−0.50×180 = 20/20		−2.75 = −0.75×180 = 20/20		
Letters	RE	20/30	92	20/20 +1	100	+8
	LE	10/200	3	10/100 +1	37	+34
Landolt	RE	20/50 −1	75	20/30	92	+17
	LE	8/200	1	10/125	13	+12
E	RE	20/30 +2	95	20/20	100	+5
	LE	15/200	11	10/50 −2	27	+16
Numbers	RE	20/30	92	20/20 −2	98	+6
	LE	8/200	3	10/100 +1	37	+34
CASE 99		−0.50 = −0.50×175 = 20/20		−0.75 = −0.25×180 = 20/15 −1		
Letters	RE	20/50	77	20/30 +2	95	+18
	LE	20/50	77	20/20 −3	97	+20
Landolt	RE	20/70	64	20/45 +1	82	+18
	LE	20/70	64	20/40 −1	82	+18
E	RE	20/40 −1	82	20/30 +2	95	+13
	LE	20/30	92	20/30 −3	88	−4
Numbers	RE	20/30	92	20/40 −2	81	−11
	LE	20/30 −3	88	20/40 −2	81	−7
CASE 99		**Third Test**				
Letters	RE	20/40	84	.....	.....	.....
	LE	20/40 +2	86	.....	.....	.....
Landolt	RE	20/60	70	.....	.....	.....
	LE	20/50	76	.....	.....	.....
E	RE	20/30	92	.....	.....	.....
	LE	20/40	84	.....	.....	.....
Numbers	RE	20/40 +3	89	.....	.....	.....
	LE	20/40 −1	82	.....	.....	.....
CASE 100		−0.37 = 20/15 −3		−0.37 = −0.25×25 = 20/20		
Letters	RE	20/40 +2	87	20/30 −2	90	+3
	LE	20/30	92	20/20 −2	98	+6
Landolt	RE	20/60 +1	72	20/50	77	+5
	LE	20/50 −1	75	20/45	80	+5
E	RE	20/30 +3	96	20/30 −3	88	−8
	LE	20/25	96	20/30 −1	91	−5
Numbers	RE	20/30 −2	90	20/40	84	−6
	LE	20/30 +1	93	20/30 −2	90	−3
CASE 101		−2.25 = −0.50×95 = 20/15 −4		−2.75 = −0.50×85 = 20/20 +3		
Letters	RE	20/200	20	20/200	20	+—
	LE	10/100	20	15/200	11	−9
Landolt	RE	20/200	20	15/200	11	−9
	LE	10/175	5	15/200	11	+6
E	RE	20/200	20	20/120 +1	45	+25
	LE	10/160 −1	4	15/120	29	+25
Numbers	RE	20/200	20	20/200	20	+—
	LE	7/70	20	15/200	11	−9
CASE 103		−4.00 = −0.75×180 = 20/20		−4.50 = −0.50×175 = 20/20 −2		
Letters	RE	10/200	3	20/70 −1	60	+57
	LE	7/100	9	10/70 −1	28	+19
Landolt	RE	7/200	1	20/175	25	+24
	LE	7/175	1	10/100 −1	14	+13
E	RE	7/120	5	20/120	41	+36
	LE	10/160 +1	15	10/50	49	+34
Numbers	RE	10/200 −1	1	20/100	49	+48
	LE	7/200 +1	1	10/70 +2	46	+45

CHART IX.—Continued.
Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 104		−2.25 = −0.37 ×90 = 20/15 −3				
Letters	RE					
	LE	15/200 +1	12	20/70 −1	60	+48
Landolt	RE					
	LE	15/200	11	20/150	31	+20
E	RE					
	LE	15/200	11	20/120 −1	34	+23
Numbers	RE					
	LE	15/200	11	20/100 +1	54	+43
CASE 105		−1.25 = −0.75 ×180 = 20/20		−0.75 = −0.75 ×180 = 20/20		
Letters	RE	20/100	49	20/70 −1	60	+11
	LE	20/50	77	20/70 −1	60	−17
Landolt	RE	20/175	25	20/100	49	+24
	LE	20/85	56	20/125	39	−17
E	RE	20/160 +1	24	20/50 +2	80	+56
	LE	20/60	70	20/60 +3	74	+4
Numbers	RE	20/100 −1	37	20/50 +1	78	+41
	LE	20/40 −3	80	20/100 −1	37	−43
CASE 106		−2.75 = 20/15 −3		−2.00 = −0.25 ×180 = 20/20 +4		
Letters	RE	19/200	19	20/100 −1	37	+18
	LE	11/100	22	15/100 +1	39	+17
Landolt	RE	15/175	15	20/125	39	+24
	LE	10/175	4	15/100	33	+29
E	RE	20/200	20	20/120 +1	45	+25
	LE	10/80 −2	23	15/80 −2	40	+17
Numbers	RE	20/200 −1	14	20/200	20	+6
	LE	12/200	8	20/100	49	+41
CASE 107		−1.75 = −0.50 ×180 = 20/20		−2.00 = −0.25 ×180 = 20/20		
Letters	RE	20/200	20	20/70 −1	60	+40
	LE	20/200	20	20/70 −1	60	+40
Landolt	RE	10/100 −1	14	20/150	31	+17
	LE	10/100 −1	14	20/150 +1	42	+28
E	RE	20/200 +1	37	20/80	59	+22
	LE	20/100	49	20/80 −2	56	+7
Numbers	RE	10/200 +1	6	20/100 −1	37	+31
	LE	10/100 +2	27	20/70 −2	54	+27
CASE 107		**Third Test**				
Letters	RE	20/70 −2	54	.....	..	.....
	LE	20/70	64	.....	..	.....
Landolt	RE	20/125 −1	30	.....	..	.....
	LE	20/85 −1	55	.....	..	.....
E	RE	20/60 −4	67	.....	..	.....
	LE	20/50 −1	72	.....	..	.....
Numbers	RE	20/70 −3	52	.....	..	.....
	LE	20/70 −1	59	.....	..	.....
CASE 108		−0.37 = 20/15		−0.62 = 20/15		
Letters	RE	20/20 −1	99	20/30 −2	90	−9
	LE	20/30 +3	96	20/40 −3	79	−17
Landolt	RE	20/40 +1	86	20/45	80	−6
	LE	20/45	80	20/60	70	−10
E	RE	20/20 +3	100	20/25	96	−4
	LE	20/25 +2	97	20/40	84	−13
Numbers	RE	20/20 −3	97	20/30	92	−5
	LE	20/30 −2	90	20/70 +1	66	−24
CASE 109		−4.75 = 20/20 −1		plano = 20/20		
Letters	RE	10/200	3	10/100	20	+17
	LE	20/15 −2	100	20/15 −4	100	+−
Landolt	RE	6/125	4	10/125	13	+9
	LE	20/25 −3	92	20/30	92	+−
E	RE	10/200	3	10/80	29	+26
	LE	20/15 −2	100	20/15	100	+−
Numbers	RE	10/200 −1	1	10/100	20	+19
	LE	20/20 −1	99	20/20	100	+1
CASE 110		−3.00 = 20/20		−3.00 = −0.25 ×180 = 20/20		
Letters	RE	10/100 −1	14	20/200	20	+6
	LE	10/100 −1	14	15/200 +1	12	−2
Landolt	RE	12/200	8	15/200	11	+3
	LE	10/175 −1	4	15/175	16	+12
E	RE	10/120 −1	11	20/160	38	+27
	LE	10/120 −1	11	15/120	29	+18
Numbers	RE	10/70 −1	28	20/200 +1	37	+9
	LE	7/70 −1	12	15/200 +1	12	+−
CASE 110		**Third Test**				
Letters	RE	15/200	11	.....	..	.....
	LE	15/200	11	.....	..	.....
Landolt	RE	10/200	3	.....	..	.....
	LE	12/200	8	.....	..	.....
E	RE	20/200	20	.....	..	.....
	LE	15/200	11	.....	..	.....
Numbers	RE	9/100	17	.....	..	.....
	LE	10/200	3	.....	..	.....

CHART IX.—Continued.
Results of Visual Acuity Tests and % Evaluation of Vision.

		Before Training	Visual Acuity %	After Training	Visual Acuity %	Difference %
CASE 111		−2.25 = −0.37 ×175 = 20/15 −3				
Letters	RE					
	LE	15/100	33	20/100	49	+16
Landolt	RE					
	LE	15/200	11	10/125	13	+2
E	RE					
	LE	15/200	29	20/160 −1	24	−5
Numbers	RE					
	LE	15/100 −1	27	13/200	9	−18
CASE 112		−2.50 = 20/20 +3		−2.50 = 20/20 +3		
Letters	RE	15/100	33	20/200	20	−13
	LE	20/100 +1	54	20/70	64	+10
Landolt	RE	12/175	10	20/150	32	+22
	LE	20/100	49	20/175	25	−24
E	RE	15/120	29	20/160 +1	38	+9
	LE	20/80 −2	56	20/80 +1	60	+4
Numbers	RE	15/200	11	20/200	20	+9
	LE	20/70	64	20/70 −1	60	−4
CASE 121		−3.25 = −0.25 ×90 = 20/20		−4.00 = −0.75 ×180 = 20/20		
Letters	RE	9/200	1	15/200	11	+10
	LE	10/200	3	15/200	11	+8
Landolt	RE	8/175	2	15/200	11	+9
	LE	8/175	2	13/200	9	+7
E	RE	8/160 +1	6	15/160 −1	14	+8
	LE	10/160	7	15/200	11	+4
Numbers	RE	8/200	1	15/200	11	+10
	LE	10/200	3	15/200	11	+8
CASE 122		−4.00 = 20/20		−4.00 = 20/20		
Letters	RE	10/200	3	20/200 +1	37	+34
	LE	10/200	3	15/200	11	+8
Landolt	RE	5/150	1	12/200	8	+7
	LE	5/175	1	10/175	5	+4
E	RE	10/200	3	20/200	20	+17
	LE	5/200	1	10/160	7	+6
Numbers	RE	10/200	3	20/200 −1	14	+11
	LE	5/200	1	10/100 −1	14	+13
CASE 124		−1.50 = 20/20		−1.25 = −0.25 ×180 = 20/20		
Letters	RE	20/70	64	20/40 −1	82	+18
	LE	20/70	64	20/40	84	+20
Landolt	RE	10/175 −1	4	20/100	49	+45
	LE	10/175	5	20/100	49	+44
E	RE	20/120 −1	34	20/40 +3	89	+55
	LE	20/120	41	20/30 −2	90	+49
Numbers	RE	20/70 −1	60	20/50 −1	75	+15
	LE	20/70 −1	60	20/40 −1	82	+22
CASE 126		−1.25 = −0.50 ×180 = 20/20		−1.25 = −0.50 ×180 = 20/20 −1		
Letters	RE	20/70 −2	54	20/30	92	+38
	LE	20/70 −1	60	20/40 +2	87	+27
Landolt	RE	20/200	20	20/60	70	+50
	LE	15/125	27	20/85	56	+29
E	RE	20/80	59	20/40 +3	89	+30
	LE	20/80 −3	52	20/50 −2	73	+21
Numbers	RE	20/70 −1	60	20/40 −1	82	+22
	LE	20/200	20	20/70 +2	69	+49
CASE 127		−3.25 = −0.25 ×90 = 20/15		−2.25 = −0.25 ×80 = 20/15		
Letters	RE	20/200	20	20/50 −1	75	+55
	LE	20/100 −1	37	20/100	49	+12
Landolt	RE	10/125	13	20/125	39	+26
	LE	10/125 −1	10	20/100 −1	37	+27
E	RE	20/160	29	20/80 −2	56	+27
	LE	20/120	41	20/80	59	+18
Numbers	RE	20/100 −1	37	20/100	49	+12
	LE	20/100	49	20/100	49	+ −
CASE 127		**Third Test**				
Letters	RE	10/70	34	.....	..	.....
	LE	20/200	20	.....	..	.....
Landolt	RE	20/125	39	.....	..	.....
	LE	20/175	25	.....	..	.....
E	RE	20/80 −2	50	.....	..	.....
	LE	20/120	41	.....	..	.....
Numbers	RE	20/200	20	.....	..	.....
	LE	20/100 −1	37	.....	..	.....
CASE 131		−2.00 = −0.25 ×180 = 20/15		−1.50 = −0.50 ×90 = 20/15		
Letters	RE	20/200	20	20/100 −1	37	+17
	LE	20/200	20	20/200	20	+ −
Landolt	RE	20/200	20	15/200	11	−9
	LE	20/175 −1	23	15/200	11	−12
E	RE	20/200	20	20/120	41	+21
	LE	20/160	29	20/80	59	+30
Numbers	RE	20/200	20	20/200 −1	14	−6
	LE	20/200	20	20/100 −1	37	+17

CURRENT PROBLEMS OF MYOPIA

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Our practice of refraction is so reliable that the theory underlying it has come to be regarded as an established fact, and not merely a working hypothesis. Hence to question it is looked upon as heretical, not to say subversive. Yet especially in myopia there are many discrepancies between the clinical behavior and the accepted explanation of the condition. This has always been the subject of unsettled controversies, recently stirred afresh by the facility shown by draftees low in visual acuity in meeting the service requirements after following unorthodox methods of "eye training."

According to common belief, myopia, because of lack or diminution of ciliary action, is comparatively free from eyestrain. For the same reason cycloplegia should be less often needed in myopes, and be more effective and prolonged when used. This reduction or abolishment of accommodation is likewise believed to render close work easier and better sustained. Viewed thus, there should be little annoyance to nearsightedness except the blur at distance. The chief function of glasses therefore is to remedy this.

Nevertheless we are all familiar with myopes, occasionally with 2 or 3 diopters of error, but more often with less, who, contrary to this notion, wear glasses only for close work. That is, the chief handicap attributed to myopia, namely blurring at distance, does not disturb them, so they prefer not to wear lenses to correct it. Yet for close work, which is assumed to cause little or no effort they habitually put on glasses. In theory these lenses should increase the eyestrain, rather than relieve it, due to the increased activity of accommodation that they necessitate.

Curiosity about this paradox led me to review the cases of low myopia examined during one season, with a view to tabulating the complaints that brought them to the office, and the purpose for which they wore their correcting lenses. These cases are unselected except to exclude extraneous factors, like appreciable amounts of astigmatism or muscular abnormality. This eliminates patients with higher grades of myopia, as the high correction worn might alter the muscle balance. Any discomfort could then be attributed to dislocation of the accommodation - convergence relation, rather than to the error of refraction. In the moderate cases reported here no appreciable alteration of muscle balance followed correction with lenses. The series is too brief to be of statistical value, but it nevertheless presents an interesting pattern.

Grouped according to the distance at which use of uncorrected vision caused discomfort, four divisions appear.

I. A small number developed symptoms at every distance at which the eyes were used. The complaints were:

1. headache
2. aching eyes
3. a. eyes itching and smarting
   b. eyes red and stinging
   c. scratching in eyes like a foreign body
4. a. scowling and squinting
   b. desire to close eyes
5. slow change of focus
6. "nervousness"

II. A much larger group were bothered on looking off, by

7. blurring at distance
8. fatigue of eyes while driving or at movies or both

III. A few had trouble with the middle distance:

9. headache developing while shopping or laboring or gardening
10. blur of intermediate objects

IV. Finally there is the inconsistent group just described, who complain of close work on account of:

11. blurring at near
12. holding work too close
13. headache while studying
14. a. eyes aching while studying
    b. soreness of eyes while reading
    c. eyes tiring while studying
15. a. itching and smarting of eyes while reading
    b. soreness of eyes while reading
    c. eyes watering and matter forming while reading

Allowing for some overlapping in these four divisions, an interesting picture appears, although, as just said, generalization is not attempted owing to limited material. Most of the low myopes fell into either Group II (those annoyed when looking off) or Group IV (those bothered by close work). The number of patients in each of these extreme groups was found to be equal, namely 21. These complaints, it is stressed, were before wearing glasses and were relieved by the correction.

The first group conforms to accepted theories. The symptoms of the last division, developing at close work, are the ones that are inconsistent. Their occurrence is noted in some text books, but not explained. Similar complaints of pulling, smarting or watering of the eyes, are also common after over-correction of hyperopia and presbyopia, situations in which myopia is produced artificially.

These symptoms occurred in a case of myopia developing typically during adolescence. In 1939 a 14 year old girl complained of headache when reading. Her mother said she was holding her books abnormally close. According to the record, she was first seen at age 6 with 1 D. of hyperopia. At the visit eight years later in 1939 at age 14 she had vision of 20/20 in her right eye and 20/20-1 in her left. This was improved to 20/15 by minus spheres, O.D. -.25, O.S. -.62. Under atropine the same error was disclosed. A pair of interchange spheres of this power set up in a metal frame for trial gave immediate relief, so the prescription was worn a couple of years. Then in 1941 there followed a period when she was comfortable without glasses, but the headache recurred after studying in 1942, and yielded to essentially the same prescription. That this was not due to a change in the muscle balance by the lenses is indicated by the record of 1944, which shows identical readings with or without lenses. While her muscle balance was within normal limits, a discrepancy has been pointed out in her prism convergence and divergence. The point is that this relationship was not altered by the correcting lenses.

The answer to the obvious question how it is possible in such a borderline case to be certain that the condition is myopia is that, of course, it is impossible. There is no absolutely dependable criterion. We are prone to ridicule the optometrists who fit minus glasses to hyperopes, but the ophthalmologist who has never done the same thing has had a very limited experience.

Myopia is believed to be identified in the following ways:

1. Visual Acuity

Two well known writers have been betrayed into printing the statement that no myope can read the 20/20 test type. This is so obviously fallacious that it seems superfluous to refute it. Since an emmetropic eye is by definition in focus at infinity, then at 20 feet it will require a 1/6 D. lens. This is 1 divided by 6, which is the number of meters in 20 feet. This is between the 1/8 or .12 D., and the 1/4 or .25 D. lens. Such a lens

would make an emmetrope 1/6 D. artificially myopic and would focus at 20 feet. A person with 1/6 D. of natural myopia would likewise be exactly focussed for the test card at 20 feet, and should have his best vision at that distance. Best vision is usually better than 20/20, however, so that such an individual could be fogged somewhat more without obliterating the 20/20 line. Thus we often find persons with 1/2 D. of myopia who can read the 20/20 line.

2. Cycloplegia

The test most trusted is refraction under cycloplegia. It is customary to assume that any patient under cycloplegia who requires a minus lens to reverse his retinoscopic shadow, and finds his distance vision improved by it, is necessarily myopic. Presumably this is often correct, but it should be remembered that drugs so frequently fail to give complete relaxation that authorities accept a patient with 1 D. or less residual accommodation as satisfactorily paralyzed. Now if this patient is found to accept a -.50 lens while exercising this 1 D. of accommodation, then he is not myopic at all, but is .50 D. hyperopic.

3. Near Point Tests

Estimation of the near point of accommodation, while indispensable clinically, is subject to so many variables that it lacks absolute precision as a test for myopia.

Consequently although patients like the one just cited, presenting the characteristic course, signs and symptoms of myopia, are presumably nearsighted, this cannot be regarded as proved with certainty.

Not only is the determination of low myopia uncertain, but war experience would seem to indicate that a moderate degree of myopia is not necessarily a fixed entity. There are two views as to the improvement previously mentioned in vision in low myopes who succeed in passing service requirements after previous failure. Some doubt whether they are actually myopes; others believe that a genuine myopia has been improved.

Such was the case of a 17 year old male, totally unaware of any impairment of vision, who was dumfounded to find that he could not qualify for the Maritime Academy. Uncorrected monocular vision was 20/40. With a -.50 sphere he rated better than 20/20 in each eye. After allowance for infinite distance, his myopia was thus around 3/4 D. Yet, as has so often happened in this war, he readily overcame this impairment after a little practice with the test card.

There is a tendency to group these and all instances of improvement of sight following uncanonical methods of treatment with the case of Aldous Huxley and explain the result as psychological. The assumption is that the patient's "visual acuity has not improved . . . he has learned how to use what he has to better advantage."[2] This interpretation does not seem appropriate for these service cases because genuine increase in acuity is shown by the test card. In the case just described, a trifling change in the length of the globe, reducing the myopia by .25 D. might suffice to permit standard 20/20 vision. This does not require emmetropia which would be expected to give still better vision. Such an alteration might follow a slight variation in tissue fluid, either quantitative or chemical, but the assumption that a variation in the tonus of the ciliary muscle is responsible would probably be more favored.

Resembling this, but more obscure, is the episode of a patient with some 3 D. of compound myopic astigmatism, who early in 1945 asked if there was any objection to his patronizing an optometrist with a view to passing the tests for a commission in the navy. As he was 25 years of age it seemed unlikely that he would suffer any damage beyond the loss of time and money. Since childhood,

examinations every year or two had shown a mildly progressive myopia of adolescence. These are the significant items in his history. At age 7 his vision was right 20/70, left 20/200, correcting under homatropine to 20/20 with -1.00 -0.25×90 and -1.25 -0.25×90 respectively. At age 9 he needed in each eye -1.75, and at age 10, -2.25. At age 19 my associate found his refraction to be right -2.75 -0.75×75, left -2.75 -0.62× 155. At age 23 under homatropine he required right -3.00 -1.00×27, left -2.25 -1.00×145 = 20/20 + in each eye. So far this is an ordinary increasing myopia during youth.

Two years later, in 1945, he devoted himself assiduously to eye-training exercises, and in the fall returned for examination. With ordinary trial case procedure he demonstrated vision right 14/200, left 10/200, correcting by right -2.37 -0.50×15, left -2.25 -0.75×150, to 20/20 + in each eye. This indicates some .50 D. less myopia in the right eye, and no change in the left that might not have taken place between refractions in any eye.

Then he demonstrated the procedure and results of his training. As I understood it, he worked on the theory that the eyeball is hung between two sets of muscles. He believed that the recti, inserted anteriorly to the equator, tend to pull the eye backwards, while the obliques, behind the equator, pull forward. Between these two hammocks his object was to compress and shorten the globe. Though this supposition accounted for the maneuver that he used, it turned out to vary considerably from the hypothesis set forth in Simpkins' "Basic Mechanics of Human Vision,"[3] which he was studying. What he did was this. He threw his head somewhat back and proceeded to squeeze his lids, especially the upper one, hard against the globe. It was unpleasantly like the accident of squeezing in operating for cataract. Finally, having accomplished all he thought possible at the time, he read 20/30 with each eye, on fresh test cards, not previously exposed. This, he said, was disappointing, as he claimed to have read 20/20 on previous occasions. He was also far from satisfied with his progress, as he had to go through a similar performance when he wished to see distinctly, whereas others with identical training could walk along the streets, reading signs and recognizing friends without having to make any special effort.

Two colleagues, especially keen observers, have watched this performance at different times, and differ widely in explaining the mechanics. One believes that the patient has learned to narrow the visual aperture, producing a pinhole effect; the other is convinced that he saw an actual retraction of the globe. Between these views a decision is not easy. It is quite possible for a myope of 3 D. to accomplish such an improvement in vision by use of a 1 mm. pinhole or even an equivalent slit. It is possible to assume a similar effect produced by the eyelids. In this case it also assumes that a graduate of the Massachusetts Institute of Technology, after months of experiment and study, was unable to recognize that he was simply making a slit with his eyelids, which is possible.

The squeezing theory involves a pressure of the lids, and a theoretically impossible voluntary pull of the extrinsic muscles, reducing the length of the eyeball. Nevertheless, the ability of the extrinsic muscles to effect such a compression of the globe during cataract extraction is only too well known. Elevation of tension, apparently from the same cause, has furthermore been noted during tonometry, when the patient seems to shrink from the instrument. One authority[4] says that a normal tension can thus rise to 50 mm. of mercury. An attempt to measure the tension of this

patient with the spring probe of Soutter was inconclusive, but retinoscopy with distance fixation seemed to indicate a reduction of myopia.

A less startling result should also be mentioned, produced in some individuals with less myopia, usually around 2 D., by a milder effort called "squinting," which enables them to make out uncertainly the 20/200 letter, and often two or three lines more. This is frequent enough so that some army orders specify that vision tests be conducted without narrowing the lid aperture.

This, and other subjects in this report, are in the main matters of common knowledge that receive little consideration. The experience is not new that many myopes discard their glasses for distance and wear them for near; that accommodation induced by minus lenses appears to allay eyestrain many times, instead of causing it; and that moderate myopia frequently seems to be overcome in service cases. But there seems to be great reluctance to admit that these and similar phenomena offer any challenge to accepted views.

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DISCUSSION

FRANCIS HEED ADLER, M.D., Philadelphia, Pa.: In my experience the myope who chooses to wear glasses only for close work is a rarity. Occasionally children who have had glasses prescribed for low myopia are found to be wearing their glasses for reading and not for distance, but on inquiry this nearly always turns out to be due to the mother who insists on the glasses for close work, but prefers the child (especially daughters) not to use the glasses all the time. I can recall no cases of low myopia without astigmatism, muscle imbalance or anisometropia, who suffered from asthenopia. The single case reported in this paper may possibly have been relieved of her symptoms by the correction of her anisometropia, even though this was slight. In Group IV Dr. Beach included those cases who complained of "holding work too close." This certainly is to be expected and conforms to accepted theory.

Dr. Beach is quite correct in pointing out that the diagnosis of a low degree of myopia is difficult to prove—that it does not matter too much is beside the point—only measurements obtained under complete and proved cycloplegia are trustworthy and any theories as to the effectiveness of this or that method for the lessening of myopia (not just improvement of visual acuity) must be based on such evidence only.

It is a well known fact that many variables enter into the visual acuity besides the correction of ametropia, so that small changes of a quarter of a diopter will frequently be found on repeated examinations even under what is thought to be complete cycloplegia. Conditions of illumination of the test card, contrast with the surrounding room illumination, state of adaptation of the patient's retina, size of pupil, difference in the position of the lenses from the cornea, tonicity of the ciliary muscle, and perhaps, water balance of the cornea and lens, are among some of the numerous factors which can and do influence the final values arrived at. In my own records I can find instances of small changes in myopia such as Dr. Beach mentions (the case of the myope who had his myopia reduced by exercises in the right eye .62 D. and .50 cylinder, and in the left .25 cylinder) without any exercises or treatment of any kind. It seems much more likely that the type of case Dr. Beach describes is similar to these and that the exercises had nothing whatsoever to do with the lessening of his myopia.

It is regrettable that more careful controls are not established before attributing such changes to any mode of therapy. This has been a common failing throughout the history of medicine, although fortunately it is less frequent today.

Dr. Adler's discussion was written at Dr. Beach's suggestion.

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INDUSTRIAL OPHTHALMOLOGY

Introductory Statement

The Joint Committee on Industrial Ophthalmology has arranged to present a series of papers on industrial eye problems in consecutive issues of the TRANSACTIONS with the hope of bringing specific practical experiences to the attention of ophthalmologists interested in industrial eye problems. The series is being started with a paper prepared by Professor Joseph Tiffin, associate member of the Joint Committee, and Dr. S. E. Wirt of Purdue University. We have asked for this as the first paper of a series because the whole field of graphs and statistics has in the past belonged to a mysterious realm in which medical people find themselves bewildered, lost and suspicious. This was the earlier experience of members of the Joint Committee and that of many of our friends doing industrial eye work where records of visual skills have been subjected to statistical analysis with results both complicated and involved. One of the most interesting new ideas that has emerged from the much closer relationship of statistical analytical methods and clinical findings (which actually have been empirical in many instances) has been the discovery that many things we have rather arbitrarily thought must be so, are actually not so. For instance, we have thought for many, many years that a vision of 20/20 is a normal or average vision. In breaking down the figures of some 20,000 people whose vision has been tested in *all* accepted ways, 20/15 is much closer to being the average vision than 20/20. There have been innumerable other instances where objective analyses of figures have revealed trends that medical folks might not have discovered for many years. It is perfectly true that statistics, if they are not handled properly, can lead one far astray. It is equally true that statistics, if handled properly, can open previously locked doors and lead to new clinical research.

Following this paper on statistical methods will be a series of papers, some of them entitled "Plant Experiences." These are actually a parallel to "case histories" except that the case is an industry. There will be individual case histories of unusual eye problems in complicated industrial jobs and an assortment of material which we hope

will include both practical information and stimulation to additional research among ophthalmologists who have an opportunity to work with industrial eye problems.

The Joint Committee would be very glad to receive any suggestions for investigation of specific industrial eye problems in which ophthalmologists seek further information. We may in this way incorporate such information, if existing, into the series of papers to be presented. Any comments, favorable or otherwise, or evidence of seemingly contradictory experiences among the Academy members to those reported in this series of papers would be greatly appreciated by the Joint Committee. This field still is almost virgin territory and our purpose is to bring to you as many practical facts as we can, and to stimulate new investigations in line with your needs and desires.

HEDWIG S. KUHN, M.D., *Secretary*
Joint Committee on Industrial Ophthalmology

Determining Visual Standards for Industrial Jobs by Statistical Methods

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For jobs in industry that require seeing as a critical part of job performance, some type of vision test is frequently used as part of the pre-employment or preplacement examination of applicants. Some minimum requirements, or standards of performance, on this test may be demanded of any employee who is assigned to such jobs. One such test, the Snellen visual acuity test, is perhaps the most widely used pre-employment or preplacement test in industry. These visual requirements for employment on certain jobs or in certain plants may be set in one of two ways: (a) They may be set by someone's opinion as to what test is to be used and what degree of performance on this test is to be required for specific jobs, based on more or less (and sometimes on not any) direct and expert observation of the jobs in question. (b) They may be set by statistical facts that determine which tests, and what minimum levels of performance on these tests, will most accurately identify the workmen who are potentially better on the jobs in question.

When visual standards are set arbitrarily, on the basis of opinion, there is the implicit assumption or expectation (or hope) that the applicants who can meet these standards will be better on the job than those who cannot meet these standards. If only those are hired who do meet the standards, it is impossible to know how well the others would have done; and therefore it may not be easy to prove whether or not these standards are actually selecting better workmen. But if such standards can be subjected to factual quantitative analysis in terms of results, it may be found that the standards actually do select better potential workmen, or that a different level of the requirements would be even more selective. On the other hand it might be found that these arbitrary standards are not helping at all to select better workmen, or even that they tend to select poorer workmen. Statistical studies of the visual requirements for many different jobs have shown that often the visual requirements are not what they might seem to be even to the most expert observer; that visual requirements may differ markedly from job to job; and that a visual standard that is selective for one job may be not at all selective, or even selective in the wrong direction, for another job.

From the Division of Applied Psychology, Purdue University, Lafayette, Indiana.

ADVANTAGES OF STATISTICAL STANDARDS

The need for sound visual standards in industry is so great that standards of some type will become more and more widespread. The potential gains are large in terms of training costs, production losses, accident losses in time and compensation, scrap or waste, absences and labor turnover. For achieving such economies, visual standards based on statistical facts have greater advantages over arbitrary standards based on opinion—advantages to the company, to the employees, and to professional men in the ophthalmic field.

One advantage to the company is that such standards are known to select better workmen—better in terms of production, quality of work, speed of learning, safety, or whatever measures of employee success were used for determining the standards. They carry their own assurance that the additional time and cost required for this testing is not being wasted but is paying for itself many fold. Furthermore, such standards are set to make the best possible selection of workmen as far as selection is possible on the basis of vision and in terms of the available supply of labor. Another advantage is that employees with different combinations and degrees of visual skills can be allocated to different jobs for which they are best suited. This means that very keen or highly skilled vision will not be wasted on a job that does not demand it, but will be used where it is greatly needed. It means also that some applicants with inferior visual skills can be employed productively on some jobs instead of being denied employment on the basis of rigid arbitrary standards, and that veteran employees who have suffered some loss of vision can be usefully employed in a suitable job without hazard. Management would not likely want to "risk" low visual standards for any job based on arbitrary opinion. Only factual evidence can show where there is little or no risk in low standards for certain jobs. Still a third advantage to the company is that, once the visual requirements for a job are known, periodic retesting of employees will disclose losses in these required skills that may be correctable before the loss interferes seriously with production or safety. This means "saving" many excellent and experienced employees for additional productive years in industry.

One advantage of factual standards to employees is that the standards employees are required to meet actually assure them a better chance to earn more by producing more, to work more safely and continuously, and to work more easily and with greater personal satisfaction. Another advantage is that the different standards for different jobs allow more latitude for employment of those with specific limitations in seeing —they do not close the door to employment entirely, as arbitrary standards sometimes do.

One advantage of factual standards to the professional eye men is that they precipitate a demand for visual services among those who need it most, those who can best afford it because they profit most from it in earning a living, and who have the greatest motivation for seeking and accepting such services and carrying through any prescribed corrective program. Another advantage is that the specific visual requirements for different jobs, in the hands of the eye doctor, may be a guide in the visual rehabilitation of patients toward the specific activities in which they wish to be proficient. The latitude in different visual standards for different jobs makes it possible often to qualify an employee for one productive activity if not for another.

INDIVIDUAL DIFFERENCES IN VISUAL SKILLS

The fundamental principle in the statistical determination of visual job standards is based upon the fact that individuals differ from each other in any one visual skill just as they differ in any other trait that can be measured. With some characteristics, differences from one individual to another may be very slight (as with differences in "normal" temperature) or very rare (as with differences in the number of fingers on a hand). But with most characteristics individual differences vary over a wide range, as in the case of height, weight and strength.

If a large number of persons were to be lined up in order of their individual height, there would obviously be many gradations of height from tallest to shortest. A large proportion of these persons near the middle of the line would not differ greatly among themselves in height, and differences in height from one person to the next would not be very apparent except toward either extreme. This is true not only of height but also of nearly every measurable human trait or characteristic. There is a relatively large number of persons having an average degree or amount of a given trait; and there are fewer persons having markedly more or less than the average amount of this trait.

The large number of persons who are nearly average tend to set in our minds a type, or typical amount, of a trait. In statistical language this type is called the "norm." Persons with much more or less than the typical amount represent departures from the norm, which departures are to be expected in any group of persons. Those who are above or below the norm are not necessarily superior or fortunate persons, nor inferior or unfortunate persons, because of that departure from the norm. A departure from the norm need not be considered "good" or "bad," but simply different and relatively unusual. Furthermore, between average and minimum amounts of a trait and between average and maximum amounts, there is usually a continuous gradation. There is no obvious division point that would set off a group at either extreme as being truly atypical. Departures from average can be described more accurately than simply calling them "atypical." It can be described by stating, by any of several common methods,[1] how far this case differs from the average.

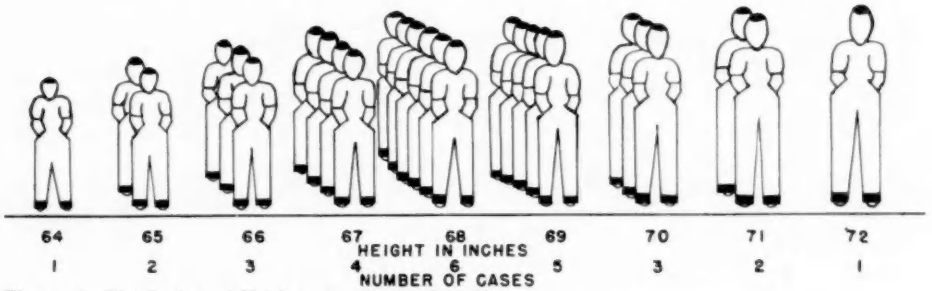


Figure 1 Distribution of Heights of a Group of 27 Men

If this same group of persons of different height were distributed into groups according to height, as shown in figure 1, the largest groups would be in those categories nearest average height, and progressively smaller groups would be in categories farther and farther re-

1. These methods for measuring degrees of departure from average are not discussed in this article.

moved in either direction from average. In a large group there would likely be some persons in every category from shortest to tallest. This *distribution* of persons into different categories according to their individual differences makes possible a simple count or tally of the number of persons having any given amount of a certain trait. The number of persons in any category indicates the *frequency* with which that amount occurs among the total group.

Such a distribution or classification of individual differences on a certain trait can be done entirely on paper, using only the figures representing actual measurements of the persons. A numerical statement in the form of a table showing the *frequency* with which each degree of variation occurs in a group is called a "frequency table." Since the different categories are arranged in sequence from lowest to highest, this shows also how individual differences in a group are *distributed* over the total range of variation. For this reason such a table is also called a "frequency distribution."

Frequency distributions of individual differences in many different traits nearly all show the same pattern—large proportions near the middle of the range and progressively smaller proportions toward either extreme. This pattern of distribution of individual differences is so common that it is called the "normal distribution."[2] Any test or measurement of any human trait or function can be expected to show this same pattern of individual differences. In fact, any human measuring device that does not show this pattern may be suspected of a lack of technical soundness.

This pattern of individual variation is seen in the results of a precise test of visual acuity. Table 1 shows a frequency distribution of the results of a test of distance visual acuity, both eyes, on 226 persons. This test measures acuity in steps of 0.1 on the decimal acuity scale. Snellen acuity equivalents are indicated also for several of the categories. Each person's performance on this test is indicated by a "score," representing his highest level of acuity (the smallest size test object he could see). A score of 10 represents 20/20 acuity. Higher scores represent better acuity, lower scores poorer acuity. Of this group of employees, 20 scored 8, 47 scored 9, 56 scored 10, and so on. It is obvious that more of them scored 10 than at any other level, and the frequency of other scores is progressively less toward the higher and lower levels.

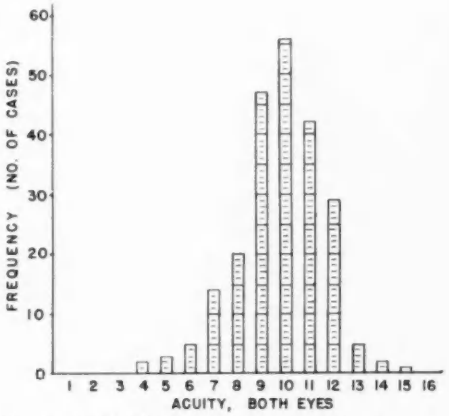


Figure 2 Distribution of Scores on Distance Acuity Test for 226 Persons

Figure 2 gives the same information in graphic form, using vertical bars of different length to represent the number of cases in the different categories. The bar for a score of 10 is 56 units high, since there are 56 cases with an acuity score of 10. The bars are shorter towards either end of the acuity range, since there are fewer cases in the other categories. The vertical scale erected at the left of the graph is a measuring stick to indicate the height of each bar.

2. The "normal distribution" can be described much more accurately, since it involves actually a very precise gradation of proportions in the different categories. However, such details will be omitted in the present discussion.

This scale is calibrated in numbers of persons and is labeled "frequency." The height of any bar, in terms of this scale, tells the frequency with which the corresponding score occurred among the group.

In judging the *relative* frequency of different degrees of acuity, it is more useful to know what *proportion* of the total group falls into each category rather than just the actual *number* of cases. The 56 cases who scored 10 represent 25 per cent of the total group; and so on. Table 1 also shows the percentage of the total group in each category. The sum of these percentages in all categories must equal 100 per cent, representing the total group.

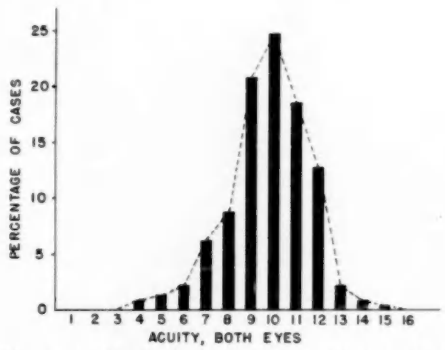


Figure 3 Distribution of Scores on Distance Acuity Test by Percentage of Total Number of Persons

In figure 3 is a chart in which a vertical bar is erected for each category, as in figure 2, but the height of each bar in figure 3 represents the percentage of cases rather than the number of cases in each category. The vertical scale at the left is labeled and calibrated as percentage instead of as numbers. To be sure, the height of each bar in figure 3 is exactly proportional to the height of the same bar in figure 2, since percentages are directly proportional to the actual numbers they represent. Therefore the pattern of bars in figure 3 tells exactly the same story as in figure 2 with respect to the distribution of scores—that there are more cases at the middle categories and fewer towards either end. However, the bars in figure 3 are constructed in the more conventional form of solid lines, not marked off into the units of height of which they are composed; and this makes it necessary to refer to the vertical scale at the left in order to see what percentage is indicated by the height of any one bar.

Another way of charting the distribution of scores is also indicated in figure 3. A dotted line connects the tips of all bars and reaches the base line at the first category on either side that has no frequency (no cases) in this group. The place at which this line touches any bar is a point in the middle of the top of the bar. This point has no width, but still it represents the whole

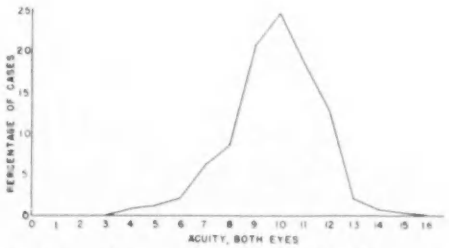


Figure 4 Frequency Curve for 226 Persons on Distance Acuity Test

category. In figure 4 this line is shown without the bars. The locations on the base line representing the different categories of acuity are here marked by points, corresponding to the points on the dotted line, instead of as zones corresponding to the width of bars. Such a line showing the distribution of individual differences is a very common type of graphic representation and is called a "frequency curve."[3]

3. It is also called a "frequency polygon," since the segments of the line are straight instead of actually curved and form the sides of a many straight-sided shape or polygon.

TABLE 1

Distribution of Scores on Distance Acuity Test for 226 Persons

Acuity Score (Decimal Scale)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total
Snellen	20	20	20	20	20		20	20		20			20		20	
Equivalents	200	100	70	50	40		30	25		20			15		13	
No. of Cases				2	3	5	14	20	47	56	42	29	5	2	1	226
Percentage of Cases				.9	1.3	2.2	6.2	8.8	20.8	24.8	18.6	12.8	2.2	.9	.4	100

Not all acuity tests, however, will yield such a distribution. A typical Snellen letter test, for example, gives an asymetrical curve. This is due to the choice of sizes of letters that are used in the test, not to any actual difference in acuity of the persons tested. A study of table 1 will show how this apparent difference occurs. The different size levels of the Snellen test are indicated below the decimal scale of acuity. There are levels in the common Snellen test corresponding to levels 1, 2, 3, 4, 5, 7, 8, 10 and 13 of the decimal scale. But there are no levels in the Snellen test corresponding to the decimal levels 6, 9, 11, 12, 14 and often not for 15. Consequently categories 10, 11 and 12 as shown in table 1 are consolidated into a single category of 20/20 acuity, which often includes well over 50 per cent of the entire group. This preponderance of cases in the 20/20 category on a Snellen test has tended to reinforce the notion that 20/20 is "normal" acuity and anything below that level is "sub-normal." Categories 13, 14 and 15 likewise are consolidated as 20/15 acuity, and categories 8 and 9 are consolidated as 20/25 acuity. These three gross categories comprise nearly the entire group and do not show the individual differences within each broad group. A few cases occur at lower levels of acuity, which on the Snellen scale correspond closely with the low levels on the decimal scale.

A chart of the distribution of results on a Snellen test would show three very tall bars for the three broad categories at the top and shorter bars tailing off to the left but not to the right. This causes the asymetrical appearance of the chart and suggests that the distribution is not normal and the classification not suitable for showing individual differences in acuity at all possible levels.

Other types of vision test also show normal or nearly normal distributions of individual differences. Figure 5 shows at the bottom a frequency table

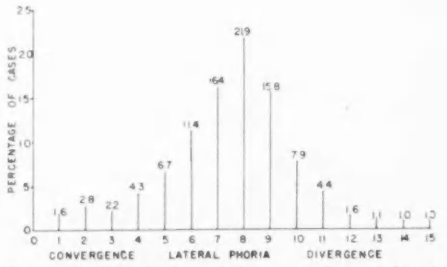


Figure 5 Distribution of Scores on Lateral Phoria Test for 834 Persons

of 834 individual scores on a distance lateral phoria test in the Ortho-Rater.[4] The categories of this test represent variations in phoria from marked esophoria (1 on the scale) to marked exophoria (15 on the scale) by steps of 1 prism diopter. The largest numbers of cases occur in categories near the mid-

4. An instrument developed by the Scientific Bureau of the Bausch and Lomb Optical Company for the visual classification and placement of industrial employees.

dle, at approximately orthophoria. The chart in figure 5 shows by the height of the bars the percentages of the total group that occur in the different categories. There is no apparent division between "normal" cases and heterophorias, but a gradual decrease in the frequency of variations either way from the "norm."

Some types of phoria test do not show such a smooth distribution. The "screen" or "cover" phoria test, for example, classifies most persons in the category of exactly orthophoria, with just a sprinkling of cases of other categories more or less removed from orthophoria. This does not mean that the normal variations in phoria do not exist among such persons, but simply that this particular test does not reveal them.

Figure 6 shows the distribution of scores for 501 persons on a color dis-

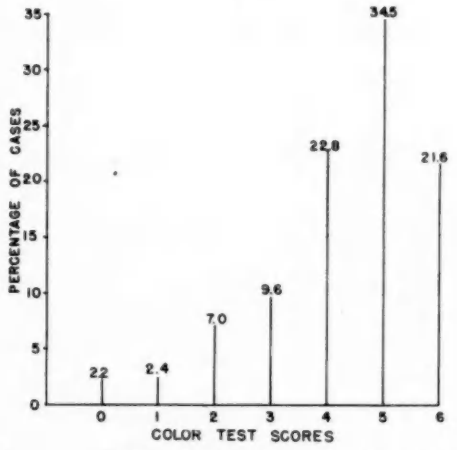


Figure 6 Distribution of Scores on Color Discrimination Test for 501 Persons

crimination test in the Ortho-Rater. This test has only six degrees of difficulty, and scores range therefore from 0 to 6. There is the expected normal distribution of scores from 0 to 5, which represents about average performance. But since this test has only one level of difficulty more severe than average ability, all persons with average or better color discrimination must score either 5 or 6 on this test. In other words, this test inadequately classifies color discrimination ability at higher-than-average levels. There is every reason to assume that additional test levels in the upper range would reveal a normal distribution of individual differences. In other words, color vision when measured *in degree* would exhibit a full range and normal distribution of individual differences in this trait. This is at variance with the common terminology which classifies a very small proportion of the population as "color blind" and the rest as "normal"—or possibly some as "color weak." Statistical facts show that color discrimination ability (or the lack of it) exists to some specific degree in each person and can be measured quantitatively; and that when so measured, individual differences have a normal continuous distribution from minimum to maximum with the largest frequencies occurring in the middle of this range.

INDIVIDUAL DIFFERENCES IN JOB PERFORMANCE

Since individual differences occur in every human trait, they can be expected also in productiveness on industrial jobs, since such productiveness is the product of various traits. And such differences do exist in the performance of any job. On some jobs individual differences in speed of production may be restricted by the pace of a machine; but at any given pace of performance some workers will do the work more accurately, or more safely, or more easily, or can sustain such work over a longer period. On most jobs individual differences can be shown in terms of various common measures of individual productivity, such as:

Quantity of production—average hourly or daily output of work

Quality of production—proportion of work rejected, or mended or done over

Economy of materials—proportion of scrap from materials used, rate of using up tools, etc.

Differences of at least 2 to 1 on such measures between best and poorest operators on the same job are the rule, not the exception. Figure 7 shows a

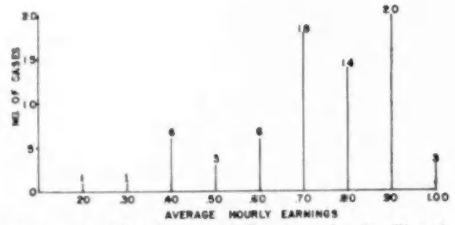


Figure 7. Distribution of Earnings for 74 Electric Solderers

distribution of individual differences in production among 74 experienced electric solderers of gold eyeglass frames. These workers are paid by the piece, and therefore their average hourly earnings show directly their average hourly production. In figure 7 these workers are divided up along the base line in order of their earnings, from 20-29 cents an hour in the extreme left category to $1.00-$1.09 an hour in the extreme right category. The workers at the right end of the scale are earning (and producing) four times as much as the workers at the left end of the scale. The height of the bar (shown by the scale at left) in each category shows how many cases occur in that category. As with other human traits, this distribution shows the largest groups in the middle near the average (earnings of about 80 cents an hour) with fewer in the lower and the higher earnings brackets.

Other individual differences in the ability and satisfactoriness of employees on similar jobs may be found in measures of other aspects of job performance, such as:

Safety—average number of serious and minor accidents per month or year

Absences—average number of days absent from work per month or year

Tenure—how long they stay on the job before they quit, are terminated, or transferred

Learning time—number of weeks to learn the job, or cash cost to the company in wages while learning

Merit ratings—evaluation by the foremen of all-round or specific job ability.

These differences in job performance are due to various factors, some factors being predominant for some jobs, other factors for other jobs. Some of the most common factors are motivation (the desire to produce), dexterity, strength, intelligence, personality traits and visual skills. Individuals differ with respect to these and other factors that determine job performance. Individual differences in visual skills have already been mentioned. Studies of visual skills in relation to job performance in many types of work have indicated that visual skills of one sort or another are probably one of the most universal and frequent factors affecting job performance, and therefore job performance can often be predicted to some extent on the basis of visual skills. The mechanization of industrial operations often tends to shift the basic factors in production away from demands for strength and manual dexterity toward demands for precise control. Precise control in manufacturing operations is more and more reduced to *control by seeing*—seeing micrometers, gauges, dials, surface defects, and so on. Modern refinements in measuring are reduced ultimately to precise tasks of seeing.

SETTING VISUAL STANDARDS ON A STATISTICAL BASIS

The problem of setting visual standards on a factual, or statistical, basis

is essentially one of establishing individual differences in job performance and individual differences in visual skills, and determining how these differences in job performance are dependent on differences in visual skills—how job performance may be predicted, to some extent, on the basis of visual skill tests. The questions to be answered are these:

1. What tests of vision are related to specific measures of performance on a specific job?
2. What degree of performance on these tests is requisite for average performance on this job, and what degree is desirable for maximum performance?
3. What difference in average job performance for the group as a whole could be expected if all workers on the job had the requisite or desirable visual skills?

Once these questions are answered by facts, rather than by opinion, other questions of a different nature can follow: How can persons be selected for training on a job who have the necessary visual qualifications for the job? How can professional ophthalmic service help more persons to qualify for the specific visual requirements on the more critical jobs? How can professional ophthalmic service help all persons to *maintain the requisite visual skills* for the jobs on which they are employed?

The method for establishing visual standards on the basis of job performance is as direct and straightforward as the measures of job performance themselves. If there is anything in the method that might be unsuspected by common sense, it is simply this: the statistical method *is not to study the job, but to study the people on the job.* This is no condemnation of various technics employed in industry to study the jobs. Much can be gained from expert observation of the job itself, by way of improving seeing conditions, determining working distances, deciding on types of bifocals, safety eyewear, etc.

But to determine what characteristics a workman must have *within himself* in order to succeed on this job, it is necessary to find out the *characteristics of the most successful employees on the job.* Those who "make good" on the job obviously "have what it takes." What have they in common that the others do not have, or have to a lesser degree? What, if any, is the minimum degree of these characteristics that will assure a man good chances to "make good" on this job?

For determining the visual characteristics requisite or desirable for a given job, tests must be given to a number of persons who work on that job. What tests should be used? Extensive experiments in industries and laboratories with more than forty different tests of vision show that this is a very important question—one that cannot be answered on the basis of opinion but only in terms of results. A battery of tests is necessary since visual skills are multiple—or at least they must be broken down into separate parts for measurement. Some tests have been found useful in connection with some jobs, and other tests in connection with other jobs. Tests must cover visual functions at optical "distance" as well as "near," since similar tests at distance and near do not always give similar results, and these different results are not highly related to each other.[5] The tests should be "functional" or "performance" tests, representing what a person *can do* with his eyes, rather than any sort of optical measurement of the eyes or diagnostic tests. Not just any test of vision, administered in any sort of a way, will produce the desired results, since the value of the results in a statistical study depends primarily upon accuracy in measurement. Some tests

5. Tiffin, Joseph, and Wirt, S. E.: Near vs. distance visual acuity in relation to success on close industrial jobs Supplement to Tr. Am. Acad. Ophth., June, 1944.

that are quite useful and satisfactory in clinical investigations may be of little use, or awkward and out of place, in these statistical investigations.

The method of selecting tests for this industrial purpose is perhaps best illustrated in the development of the Bausch and Lomb Ortho-Rater, which consists of a battery of tests selected and developed *for this and for no other purpose*. The tests originally selected for inclusion in this battery were those that showed the greatest relationship to job success on a variety of industrial jobs. Those not included were eliminated for either of two reasons: (a) they did not show a strong enough relation to job performance in enough different jobs, or (b) they were too complex and could not (have not yet) been reduced to a simple form that would be practicable for industrial use. The tests included in the Ortho-Rater are not the only tests that measure pertinent visual functions, but rather those with the greatest degree of usefulness and practicability. All of them have been incorporated into a single instrument which provides optically two distances; 26 feet and 13 inches.

These tests were further developed and strengthened to meet certain universal criteria of good test construction. (1) Each test had to reveal the fullest possible range of individual differences and show normal or near-normal distributions of these differences. (2) Each test had to give essentially the same results on the same people regardless of who tested them or when or where. (3) Each test had to yield quickly just one clearcut score for each person, without requiring more than a minimum of training, interpretation and judgment on the part of the examiner. Unless tests meet the first two specifications, they cannot correlate highly with any other measures such as job performance. Unless they meet the third specification, they are not practicable for industry. In short, vision tests for this purpose in industry must be selected, developed and refined for this objective just as clinical tests have been developed and refined for their objectives.

In setting visual standards by the statistical method, the first step is to test a number of employees, of all degrees of job performance, on the same job or on similar jobs. There are two avenues open for segregating better and poorer workmen and making a statistical comparison of their visual skills.

THE "FOLLOW-UP" METHOD OF SETTING VISUAL STANDARDS

One method is to test all new employees who are being assigned to a particular job and to file the results for future analysis. All these people start "from scratch" with no experience, and all of them receive essentially the same instruction. After these new employees have been on the job for a period of time, it will be possible to determine how readily each is mastering the job. Later, after each has "hit his stride" in the job, it will be possible to determine his "ceiling" in job performance. These determinations are made on the basis of quantity of production, quality of production, waste material or scrap, accidents, foremen's ratings, and such criteria of job performance. Still later it will be possible to determine which ones are still on the job and which are not. (The employees who do not stay long on the job have largely wasted the time and money that went into teaching them the job.)

By whatever means their job performance and worth to the company are determined, some will be classed as definitely superior employees, others as definitely inferior, and the others in categories representing various degrees between these two extremes. Then we go back to the original test records to

see whether, at the time they first were tested, those who became superior workmen showed up as somehow different from the inferior workmen on these tests. The potentially superior workmen were probably on the average also superior in some characteristics of vision.

This procedure is illustrated in the following experiment. Twenty-nine young women, being hired as loopers in a hosiery mill, were tested on a vision test (this was an early form of an industrial vision test—part of the experimental apparatus that preceded the Ortho-Rater). These persons were hired and trained for this job regardless of the results of this test. It cost the company from $30 to $150 in wages for each of these women to learn the job. Some learned much faster than others and soon were earning their wages. When the training period was over the company computed the cost for each of these loopers. On this basis the group was classified as "fast learners" and "slow learners."

Figure 8 shows a comparison of the speed of learning of these different em-

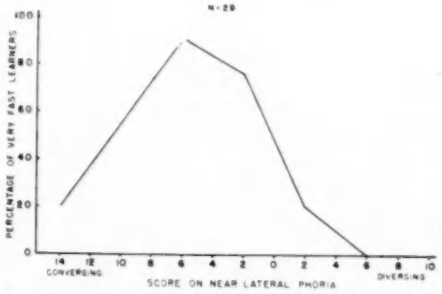


Figure 8 Speed of Learning Looping in Relation to Scores on Initial Phoria Test

ployees in terms of their scores on this test. The test in this instance was a near lateral phoria test. These women are classified along the base line according to their scores on the test, ranging from esophoria on the left to exophoria on the right. For each category on the vision test there is a point on the chart above the base line. These points are connected so that the eye can follow from one category to the next. The height of each point above the base line is shown by the vertical scale at the left, and this height represents the proportion of the women *in that one category* who were classified as "fast learners." The categories in the middle range have the largest percentages (highest points on the curve) of fast learners. Categories at either end of the scale had a smaller percentage of fast learners, and therefore a larger percentage of slow learners. In the future this company will be able to select more fast learners for this job if it restricts its selection to those applicants who score in the middle range on this test.

The particular characteristics that set off the potentially superior workmen can be determined from such a comparison. Those tests that do not differentiate the better and poorer workmen (those on which all grades of workmen performed equally well) are also determined and eliminated from further consideration for this particular job. The tests which measure critical skills for the job can therefore be selected. Also, the *degree* of visual skill necessary to classify an applicant as a potentially superior (or at least not an inferior) workman can also be determined. This procedure will be illustrated below. The critical tests and critical levels of these tests can thus be established statistically as "standards" of requisite or desirable visual skills for these jobs. These standards can then be adopted and applied in allocating future employees to this particular job.

By way of simplified summary, we have up to this point segregated the better from the poorer workmen, determined certain visual characteristics that are found predominantly among the better workmen, and established

TABLE 2

Relation Between Near Acuity Score and Production (Earnings) of Electric Solderers

Average Hourly Earnings	*Ortho-Rater Score on Near Acuity, Both Eyes*									
	7	8	9	10	11	12	13	14	15	Total
1.00—1.09			1	1	1					3
.90—.99			2	3	12	3				20
.80—.89			2	4	3	4			1	14
.70—.79		3	3	6	3	3				18
.60—.69			2	1	2		1			6
.50—.59			1		2					3
.40—.49	1		1		4					6
.30—.39				1						1
.20—.29					1					1
Total	1	3	12	16	28	10	1	0	1	72

tests that will help to identify more workmen like those who are superior in job performance. *This method has involved no assumption or opinion as to what constitutes "good vision" for this job.* But "good vision" *for this job* has been crystallized in the standards as the visual characteristics that help a man "make good" on the job.[6]

THE "PRESENT EMPLOYEE" METHOD OF SETTING VISUAL STANDARDS

The above method of setting standards has been detailed in order to illustrate the principles in their simplest form. However, it is not the method in most common use. It is time-consuming and expensive, because results cannot be obtained for a period of weeks or months after the testing. During this period new employees are assigned to the job without benefit from the tests that were given them. During the war years it was almost wholly impractical to use this method; it was too urgent to fit as many untrained people as possible into jobs and training programs for which they were best fitted. Fortunately there is another method, a short-cut to the same end results. This short-cut is based on the same fundamental principles and works out in the same manner. The fact that it requires more expertness and insight in handling the figures does not change the basic theory.

This second method used in setting visual standards on a factual basis is *to test a number of present employees* on a job—employees of all degrees of ability and achievement on the job. These employees are classified, on the basis of production, quality, ratings, or whatever measures of job success are available, into categories from "definitely superior" to "definitely inferior"—just as in the other method. And then, also as in the other method, the visual characteristics of the different groups are compared in order to determine what visual skills the superior workmen possess that inferior workmen do not possess, or possess to a lesser degree.

Table 2 shows such a comparison for the 72 electric solderers previously mentioned. These solderers are classified

6. Snell, H. C.: The need for a more realistic ophthalmic service in industry, New York State J. Med., 42:1435, Aug., 1942.

horizontally according to their scores on near acuity, both eyes. Their scores range from 7 at the lowest to 15 at the highest end of the scale. Twelve employees scored 9, 16 scored 10, and so on. Each of these groups is also divided vertically according to average hourly earnings, ranging from 20-29 cents an hour to $1.00-$1.09 an hour. Since these operators are paid at piece rates, their earnings are directly proportional to their production. Of the 16 who scored 10 on the test, 1 earned between 30-39 cents an hour, 1 earned 60-69 cents an hour, 6 earned 70-79 cents an hour, and so on. Each cell of this table contains a number showing how many employees scored at a certain point on the test and produced at a certain level of earnings.

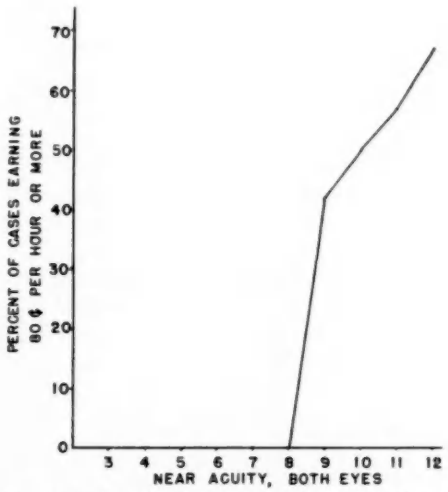


Figure 9 Relation between Earnings of Solderers and Their Scores on Near Acuity, Both Eyes

A careful study of this table reveals that high earnings are somewhat more frequent among those with high scores on this acuity test. Average earnings on this job were approximately 80 cents an hour. The proportion of solderers earning this much or more is higher in columns at the right where acuity scores are highest. This relation is shown in figure 9, in which these solderers are classified along the base line according to their score on the test. The proportion of each sub-group who earned 80 cents an hour or more is indicated by the height of a line above the base line at that place. Of those scoring 7 or 8, none were earning average money on this job. The higher the operators score on the test, the larger the proportion of better-than-average producers. There are, to be sure, some exceptions which may be noted in table 2. But the fact that the group as a whole shows better production among those who score highest on the test means that the chances for success are definitely more favorable for those who score high on the test.

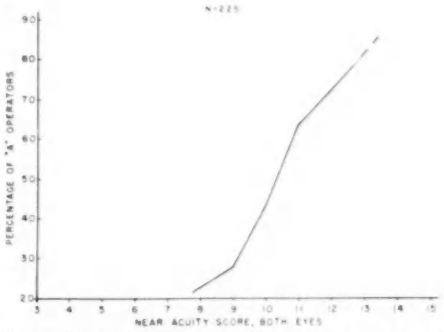


Figure 10 Relation between Near Acuity and Rated Production of Assemblers

Figure 10 shows a similar relation between scores on this same test (near acuity, both eyes) and the proportion of workers rated "A" on radio tube assembly. The higher the employees score on the test, the greater the proportion of superior workers. It may be expected that new employees placed on this job will have better chances to become "A" operators if they score high on this test. Such a continuous relation between higher scores on a test and better production is not always the case. Figure 11 shows a somewhat different

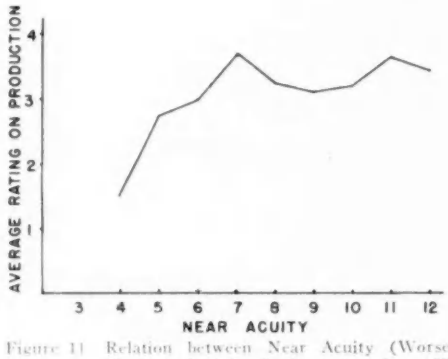


Figure 11 Relation between Near Acuity (Worse Eye) and Job Performance for 177 Gaugers

type of relation, in this case the relation between near acuity, worse eye, and job performance in gauging metal parts with a reed gauge. The visual requirement is primarily reading the dial of the gauge. In this figure, 177 gaugers are classified on the base line according to their scores on the acuity test from 3 to 12. For each sub-group, the average production rating is shown by the height of the curve above the base line. Production increases progressively from scores of 3 to 7, but beyond that point production does not increase more with higher scores on the test. Evidently an acuity score of 7 is all that is required for this job. Sometimes there is no relation between test results and job performance. This is true for radio tube assemblers on a *distance* acuity test. Figure 12 shows this relation. The same 225 radio tube assemblers mentioned above are here classified on the base line according to their scores on distance acuity, both eyes. The proportion rated "A" among each sub-group is indicated by the height of a line above the base line at successive score points. In spite of several rises and falls, this curve shows no consistent trend either up or down with higher scores on this test. The score which a person makes on this test makes no difference in his job performance. This test, therefore, is not related to *job performance;* a minimum requirement on distance acuity for this job *would not result in any improvement* in job performance.

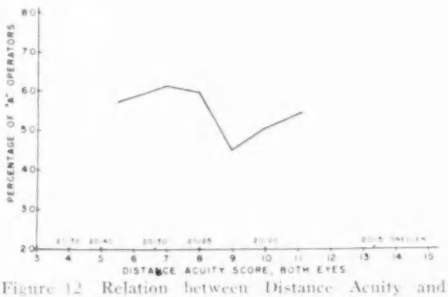


Figure 12 Relation between Distance Acuity and Job Performance of Assemblers

Sometimes a test shows a negative or *reverse relation* with job performance,

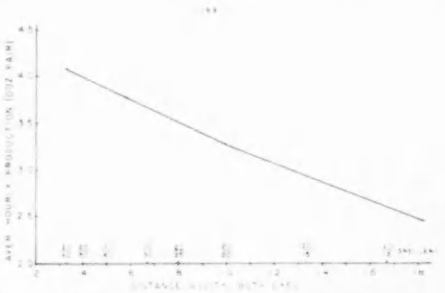


Figure 13 Relation between Distance Acuity and Production of Loopers

as illustrated in figure 13. In this chart 199 hosiery loopers are classified along the base line according to their distance acuity. Their actual production, in dozens of pairs of hose processed per hour, is indicated by the height of the curve above the base line. These loopers with the keenest distance acuity (at the right) were processing on an average less than 2.5 dozen pairs per hour, while those with the poorest distance acuity (at the left) were processing more than 4.0 dozen pairs per hour. The keener their distance acuity, the lower their production. This relation can be accounted for by the fact that this work is done only 6 to 10 inches from the eyes of the operator and those whose acuity is best at this distance probably

had an advantage on this job while they had a corresponding disadvantage on a distance acuity test. This distance acuity test has no utility for selecting loopers; in fact, if a minimum score on distance acuity were required of any employees on this job, it would be worse than no standard at all. When a near-point acuity test is used the relationship is reversed.

A typical relation between a phoria test and job performance is shown in figure 8, in which the best job performance occurs among those persons in the middle of the range of test scores and either end of the range is associated with poorer production. An atypical relation is shown in figure 14. In this chart 95 milling machine operators were

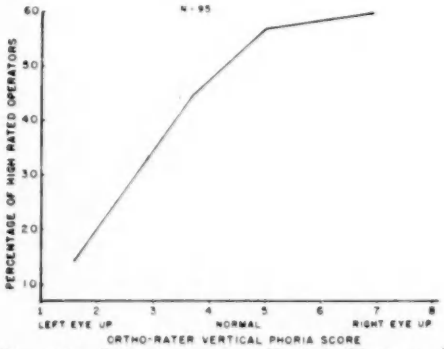


Figure 14 Relation between Vertical Phoria and Job Performance on Milling Machines

classified along the base line according to their scores on a vertical phoria test. Scores in the middle of this scale represent orthophoria, scores to the right are right hyperphoria, scores to the left are left hyperphoria. For each subgroup the proportion of workmen rated high in job performance is indicated by the height of a line above the base line. The proportion of high-rated operators is largest in the test range representing orthophoria and right hyperphoria, and lowest in the range representing left hyperphoria. This same relation has been found on three groups of milling machine operators in three different plants. It probably represents a visual condition associated with a left hand tilt on the job. The significance of it is that for excellence of performance on this type of milling machine, scores representing slight right hyperphoria are *equally acceptable* with scores representing orthophoria; but scores representing left hyperphoria are not desirable on this job.

Figures 8-11 show various types of relation between specific tests of vision and measures of job performance. Figure 12 shows the absence of any relation between test and job performance. Figures 13-14 show unexpected relations in which certain visual characteristics that are often considered "abnormal" or "defects" were entirely acceptable for optimal job performance —these particular characteristics do not reduce an employee's chances of success *on these particular jobs.* It is evident from these examples that visual characteristics associated with success or failure may be quite different on different jobs, and that visual standards should be specified for each job or type of work.

In establishing minimum visual requirement on a statistical or actual basis, each test in a battery of vision tests is studied separately in relation to measures of job performance on a particular job. If better and poorer operators tend to be different on any of these tests, that is, if the better operators are found predominantly among those scoring *in a certain range* on a test, then the visual characteristic that is being measured is related to success on this job. It is then possible to determine what range of scores on the test is predictive of the best chances of success on the job.

From table 2 and figure 9 (electric solderers) it is apparent that scores of 8 or below on near acuity, both eyes, are not associated with successful per-

formance on this job, since none of the solderers who scored in this range were doing even an average amount of work. Therefore, this range of scores may be considered unacceptable for this job. In the score range from 9 to 12, the higher the score the better the chances of at least average success on the job. Therefore, solderers should be selected as much as possible from among those who score highest on this test. A minimum acceptable score would be 9 and a minimum desirable score 12. When more solderers are needed and not enough applicants score 12 or better on this test, it would be reasonable to accept some who score 11 or 10 or even 9.

These specifications for this job are shown in figure 15. This chart shows all possible scores (0-15) on the test of near acuity, both eyes. Scores of 0-8 are "blacked out" to show that they are unacceptable for this job. Scores of 9-11 are lightly shaded to show that they are acceptable, though not optional. Scores of 12-15 are left clear to show that they are most desirable for this job.

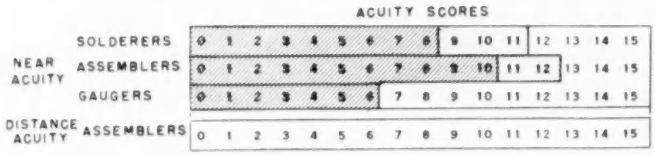


Figure 15 Visual Standards on Near Acuity for Different Jobs

Similarly standards can be derived from figure 10 for the same test in connection with radio tube assembly. In the total group approximately half the operators were rated "A," but among those who scored below 11 fewer than half were rated "A." This means that for persons scoring 0-10 on this test, chances are less than even that they will be average or better on the job. In the range 11-13, the higher the score the greater the proportion of "A" operators and the greater the chances of any one person being an above-average worker. Figure 15 shows for this job the range of scores (0-15) on this test with 0-10 "blacked out" as unacceptable, 11-12 shaded to represent "second choice," and 13-15 left clear as optional scores on this test for this job.

Figure 15 shows similar plots based on results shown in figures 11 and 12. In the third row in figure 15, based on gaugers in figure 11, scores of 0-6 are blacked out as unacceptable; but no further restriction is indicated since scores higher than 7 do not improve chances for success on this job. In the last row in figure 15, based on distance acuity of assemblers, in figure 11, none of the scores are blacked out as unacceptable, since scores on this test do not predict one's chances of success on this job.

Similarly, visual standards can be formulated for other specific tests in relation to specific jobs. The pattern of visual requirements on all the twelve tests in the Ortho-Rater for one job, electric soldering, is shown in figure 16. All unacceptable scores are blacked out, acceptable but undesirable scores are shaded and desirable scores left clear. This "master" pattern is the pattern of visual skills that the employment office will be seeking in those persons who are to be hired and trained for this job.

In figure 17 is shown the record of test results on these same tests for one person. His performance on each test is indicated simply by a circle around a number in one line. The chain of these circles, called his "visual performance profile," represents his pattern of visual

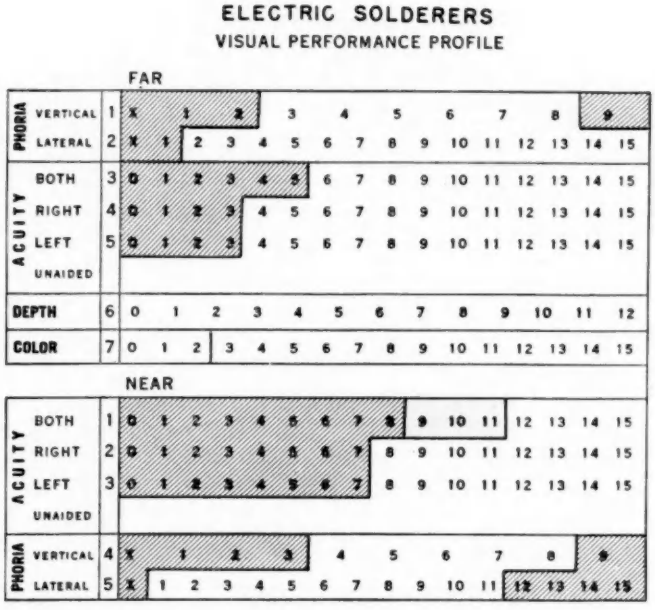


Figure 16 Total Pattern of Visual Requirements on Ortho-Rater Tests for Electric Solderers

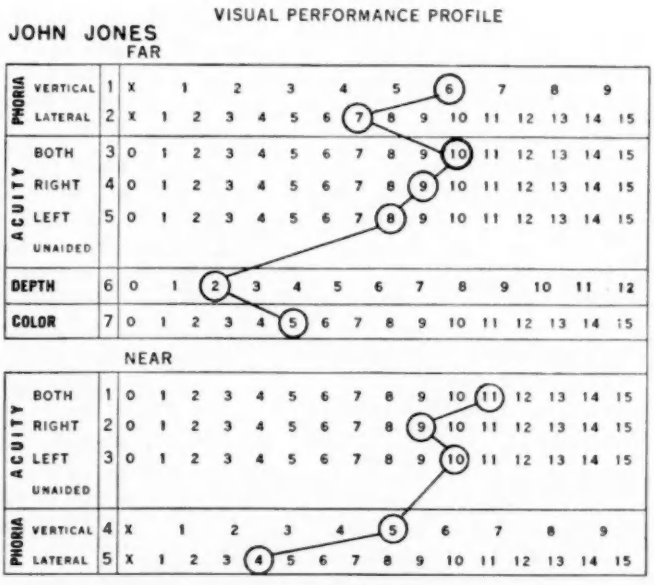


Figure 17 Ortho-Rater Test Results Showing Pattern of Visual Skills for One Person

skills. To the extent that his individual pattern fits the master pattern for this job, his chances for success on this job are good and he is a desirable employee for this job. To the extent that professional eye care can modify his visual skills toward the required pattern, his chances of success will be improved and his desirability for this job will be enhanced.

The net result of applying a battery of visual standards established on a factual basis to the visual test scores of a number of persons is to make a much more striking segregation of better and poorer workers than is possible with any standard on a single test. Such results are illustrated in figure 18 for electric solderers. In this chart all the solderers on the job are classified along

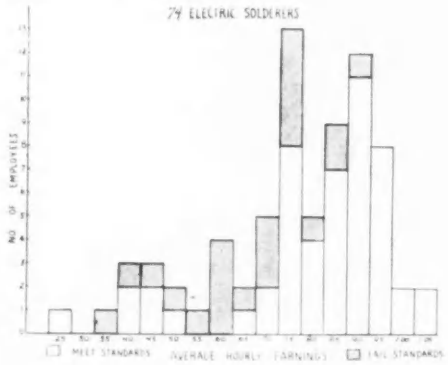


Figure 18. Relation between Total Visual Requirements and Earnings of Electric Solderers

the base line according to their average hourly earnings. For each category of earnings the total height of a bar indicates the number of employees earning at that level. The clear portion of each bar represents employees who met all the minimum or primary visual requirements (shown in figure 16) for this job. The shaded portion of each bar represents employees who failed to meet one or more of these requirements. In the three groups at the right, representing employees with the highest production, none of the operators failed any of the standards. In the six groups representing earnings of 80 cents an hour or more only 4 of the 38 employees failed to meet all requirements. But in the groups representing earnings of less than 80 cents an hour, 18 of the 35 employees failed to meet all requirements. The average earnings of all employees who failed to meet all the standards was 69.0 cents an hour; the average earnings of all those who did meet all the standards was 82.7 cents an hour—20 per cent higher than the earnings of the other group. This segregation according to vision was based on only the *minimum acceptable* (blacked out) levels of the visual standards. A select group of these employees passed all requirements at the *minimum desirable* (blacked or shaded) levels of the visual standards. Their average earnings were 75.4 cents an hour.

This indicates the gains that might be achieved in production on this job if the indicated visual standards were in force. Substantial gains were also indicated with respect to quality of work and freedom from accidents (mostly burns) on the job. The implication of these facts is not quite the same for employees already on the job as for those who may in the future be assigned to this job. Present employees who do not meet the visual requirements derived for this job are not likely to be terminated or transferred, except in extreme instances, since their training and experience on this job would thereby be lost to the company and their present production would be replaced by the low production of others just beginning on the job. However, those who do not meet the standards are referred for professional eye care so that they might achieve the visual skills that are important for maximum success on this job.

For beginners on the job the application of these standards is more stringent. Only those are trained for this job who (a) initially meet the require-

ments or who (b) with professional eye care can be helped to meet the requirements. All employees are retested periodically, and those who fail to retain the required visual skills are referred to professional eye care so that more good, experienced workers can be retained at maximum productivity for added years.

The first method or avenue of approach in deriving visual standards for a job, described first in this article, involves a study of the initial visual skills and subsequent job performance of beginners on a job. All of these persons start with the same total lack of experience. The standards so derived are applied to other beginners and also to all present employees on the job. The second and more commonly used method of setting visual standards involves a study of the present visual skills and present job performance of employees already on the job, with a similar application of the standards both to beginners and to present employees. The employees so studied have various amounts of experience on the job. This is one of the complications of the second method, since measures of job performance are influenced by the amount of training and experience on the job as well as by aptitudes and skills, such as visual skills. However, this and some other complications can be surmounted by careful handling of the data. The present visual skills of veteran operators may not be the same as at the time they first learned the job, and the use of standards based on veteran skills for selecting beginners might call for further explanation. Visual skills may be different among workers with different amounts of experience on the same job. This particularly is true for jobs with several visual demands but for which appropriate visual demands have not been used to select new employees. On such jobs those who do not have the necessary visual skills at the time of employment cannot achieve any great degree of success or personal satisfaction on the job and they tend to quit or be terminated or transferred from the job. As a result those who stay on the job and become experienced veterans have been selected for visual skills (among other characteristics) by a process of natural selection and training. Such a situation is illustrated in figure 19, which shows two distribution curves of scores on near acuity for radio tube assemblers. The solid line shows,

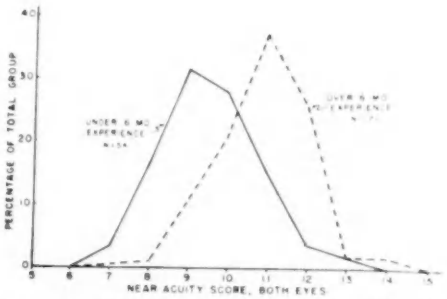


Figure 19 Difference in Near Visual Acuity between Experienced and Inexperienced Radio Tube Assemblers

for assemblers with less than six months' experience, the proportion of the group whose near acuity score was 6, 7, 8, and so on. The largest proportions scored 9 and 10. The dotted line shows similarly the distribution of near acuity scores for assemblers with more than six months' experience on the job. None of these scored as low as the lowest in the first group. The largest proportions scored 11 and 12, and some scored higher than the highest in the other group. There is obviously a general difference in near acuity between the experienced and the inexperienced groups; those with low acuity do not often get into the experienced group. Many are trained, but few remain long on the job.

Thus the presence of different amounts of experience in the group being studied, though it complicates the

straightforward approach, also provides additional bases for determining what types and degrees of visual skill are important for continued performance on the job. Even when there are no inexperienced workers for comparison, the fact that a group of experienced workers show exceptionally high or unique performance on any vision test is an indication that the test is measuring something important for job success.

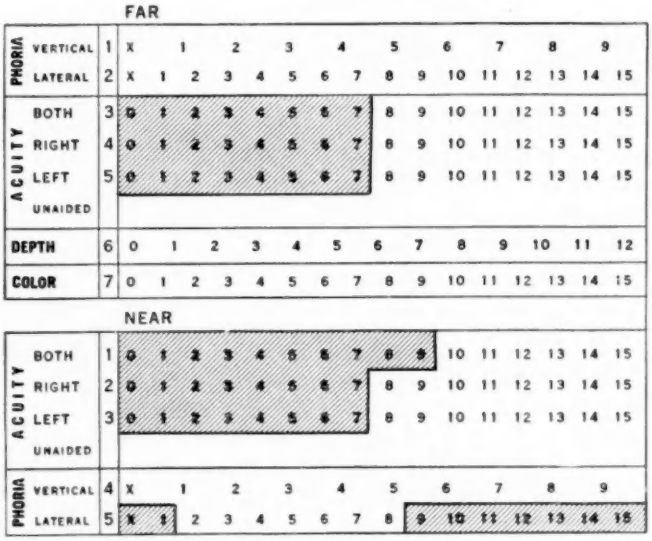
The method of setting standards by a follow-up of beginners on the job discloses the visual skills that are important for learning the job. The method of setting standards by a study of experienced workers discloses the visual skills that are important for mature success on the job. In either case, the procedure identifies the visual skills that are characteristic of the more successful employees, and sets up these skills as standards for all employees on the job. In either case the standards can be verified or modified on the basis of subsequent studies in the same plant or similar studies on similar jobs in other plants.

Figure 20 shows different patterns of visual skills established on the basis of such factual evidence for different jobs. These patterns for different jobs may be similar or quite different. Some are complex, including standards on most of the different tests, and some are very simple with few requirements. On any one test the minimum requirement may be high for one job, moderate for another, and lacking entirely in another. Some patterns require good two-eye vision; others accept monocular vision. These differences provide opportunities to find *suitable jobs for more people* than would be possible with arbitrary standards or with none at all.

Inevitably some similar patterns of visual requirements will be found for different jobs. It may then be assured that such jobs have similar visual requirements, even though the work accomplished on these jobs may be different. It will then be possible to classify jobs into families of similar visual requirements, regardless of other differences that might be more apparent to casual observation than the similarities. In order to catalog such a "visual family" of jobs the same type of statistical approach can be used. Here are certain jobs that have similar visual requirements; what job characteristics do they have in common that other jobs do not have. These characteristics can perhaps be isolated and cataloged by patient investigation; then in the future any jobs with these characteristics can be associated with this family and from this association its visual demands may be inferred and anticipated.

To be sure, such research will be extensive and laborious—the type of investigation that can be done best by some cooperative arrangement with many investigators. It is one of the long-range research projects that have been undertaken at Purdue University in connection with the Purdue Industrial Vision Institute. In this project investigators of job requirements of vision in a number of industries, all of whom have a vision program supervised by personnel trained in the Purdue Industrial Vision Institute, are sharing their findings with and receiving help from the staff of the Institute. The results of such investigations are making it possible to appraise the visual requirements of a job by a study of the job, with a number of reference points by which the job may be classified into one or another of the visual families. Such an appraisal has a more factual basis than the frequently encountered present day practices of arbitrarily stating visual requirements for jobs, often with little observation and no scientifically guided observation, and setting visual standards on the basis of such arbitrary judgment or opinion.

PISTON RING INSPECTORS
VISUAL PERFORMANCE PROFILE



MILLING AND PROFILING
VISUAL PERFORMANCE PROFILE

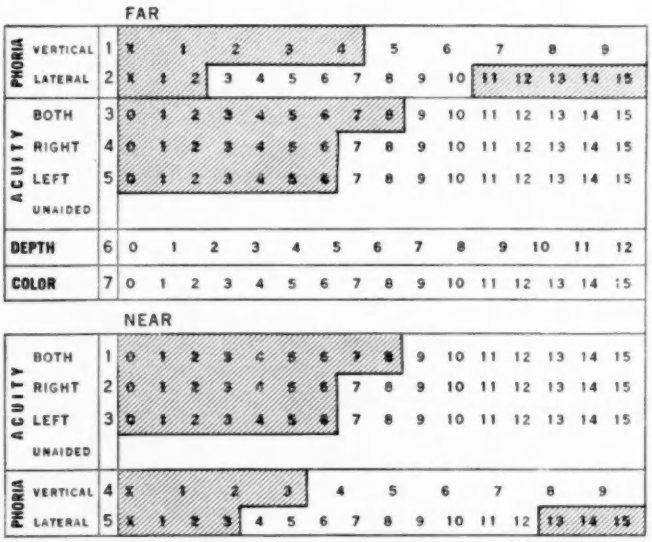


Figure 20. Patterns of Visual Skills Derived for Several Different Jobs

LOADERS AND PUSH TRUCK OPERATORS
VISUAL PERFORMANCE PROFILE

FAR

PHORIA	VERTICAL	1	X		1		2		3		4		5		6		7		8		9	
	LATERAL	2	X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
ACUITY	BOTH	3	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	RIGHT	4	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	LEFT	5	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	UNAIDED																			
DEPTH		6	0	1	2	3	4	5	6	7	8	9	10	11	12					
COLOR		7	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		

NEAR

ACUITY	BOTH	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	RIGHT	2	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	LEFT	3	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	UNAIDED																	
PHORIA	VERTICAL	4	X		1		2		3		4		5		6		7		8		9	
	LATERAL	5	X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		

WATCH ASSEMBLY
VISUAL PERFORMANCE PROFILE

FAR

PHORIA	VERTICAL	1	X		1		2		3		4		5		6		7		8		9	
	LATERAL	2	X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
ACUITY	BOTH	3	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	RIGHT	4	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	LEFT	5	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		
	UNAIDED																			
DEPTH		6	0	1	2	3	4	5	6	7	8	9	10	11	12					
COLOR		7	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		

NEAR

ACUITY	BOTH	1	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	RIGHT	2	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	LEFT	3	0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	UNAIDED		MONOCULAR LOUPE															
PHORIA	VERTICAL	4	X		1		2		3		4		5		6		7		8		9	
	LATERAL	5	X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15		

Figure 20 (Con't.) Patterns of Visual Skills Derived for Several Different Jobs

The Cleveland Hearing Conservation Program

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CLEVELAND, OHIO

Ten years ago, the writer was asked to take charge of the hearing testing program in the Cleveland Public Schools. This school system had been following a hearing testing program since 1927. The figures quoted in this paper will be confined to the years from 1935 to 1945 and we now like to think of this program as one of *hearing conservation* rather than hearing testing. We have learned that a hearing testing program without following through could be compared to a surgeon opening an abdomen, seeing the pathology, and then walking out of the operating room.

In view of the fact that many of the technics employed have been changed from time to time, a completely accurate comparison of results is rather difficult. These changes will not be described in detail, but where it is necessary for comparison purposes, the different methods will be named. Details of the methods in current use will be presented, and reasons will be given why these particular methods have been adopted.

DETAILS OF SCREENING PROGRAM

From 1935 until 1944 all screening tests were done with the Western Electric Phonograph Audiometer. At the present time screening tests are done by the "sweep-check method" on the pure tone audiometer. The reasons for this will be enumerated below.

The selection of cases for screening and the preliminary arrangements are the same no matter which method is used. Principals, assistant principals, teachers, and nurses must be fully aware of the importance of such a screening program, and sufficient advance notice must be given these people. At least three weeks before a school is screened, the principal receives a form notice from the audiometer technician refreshing her mind as to which cases are to be screened and the day of the screening. This notice asks the principal to advise the technician if, for any reason, this particular day is not satisfactory.

The following children are screened:

1. All children in the second grade.
2. All children in the sixth grade.
3. Any child that is known to have or thought to have had ear disease.
4. Any child that the principal or teacher thinks may be a hearing problem.

When the audiometer technician arrives at a school, a conference is held with the principal and the nurse, if she happens to be in the building on that day. It is very helpful if the schedule can be arranged in order that the nurse *is* there on that day. A quiet inside room on the top floor of the building is selected. This room must have adequate ventilation and be equipped with an electrical outlet for the audiometer. The school nurse or another selected individual can act as monitor.

The children are lined up outside this room and given a brief résumé as to how this test is carried on. Each child carries his own health card. There are two children in the room with the technician at all times. One child observes

while the other is being tested. The right ear is usually tested first and the audiometer set at 15 decibel loss. The frequency dial of the audiometer is changed rather quickly from 128 up to 4096 inclusive. No signal or push button switch is used. The child's face is constantly observed and he is asked to nod when he hears a new tone. The child then places the ear phone on the opposite ear and the frequencies are changed from 4096 back down to 128.

If the technician is satisfied that this child has heard all these frequencies, the health card is stamped showing the date and the fact that a pure tone audiometer test was given and the child's hearing found to be within normal limits. This child then goes out of the room, the child that was observing sits down, and a new observer is admitted.

If the child does not seem to hear some frequencies and it requires increased intensity up to 25 decibel loss or more at two succeeding frequencies, the child's name is written on a piece of paper and his health card is not stamped. As each child is tested, the technician makes a mark under the appropriate classification, namely, second grade, sixth grade, or referral.

After the first screening in that particular school has been completed, those children who were not stamped as normal are retested in the same manner. If this child is still found to show a suspected hearing loss his health card is stamped indicating that the child has been referred to an otologist. At the end of each day's screening, the audiometer technician makes out a list in triplicate of these children suspected of having a hearing loss. The first list is forwarded to the nurse in charge of the otologic examinations. In Cleveland, this is the nurse at our center of testing, Alexander Graham Bell School. The second list is given to the school nurse at that school and the third list is given to the principal of that school. The school nurse has these children checked by the school physician for the presence or absence of an appreciable amount of cerumen in the ear canals. One of the child's parents is then called to that school and the situation is explained to the parent. With the parent present, the otologic examining center is called and an appointment is made that is satisfactory to all concerned. *At that time it is impressed upon the parents that they must keep this appointment with the child.* If the school physician has found cerumen in one or both of the ear canals, the parent is advised that this must be removed before the otologic examination can be done. The school nurse then completes an Otologic Consultation Blank and forwards it on to Alexander Graham Bell School. This blank contains such pertinent facts as to how this case was selected for further examining, the level of school work the child is doing, results of any psychological testing, and other serious ailments.

FOLLOW-UP SYSTEM

The follow-up methods (as referred to in the first paragraph) for the system up to this point are as follows:

1. Three weeks from the time the otologic nurse receives a list of suspected cases from the audiometer technician, the appointment schedule is checked to see if appointments have been made for all of these cases. If not, the respective school nurse is called.
2. When an appointment is not kept the respective school nurse is notified by mail and asked to start over again.
3. Every year each school nurse goes over every health card in her school, and if this card should be stamped that the case had been referred to the otologist and there is no subsequent notation of his findings, an investigation is started.

This system of checks and double checks has been evolved over the past ten years. The reasons for stressing this part of the program can be seen by comparing table No. 1 with table No. 3. During these years there were 7336 suspected cases but only 1900 received a complete otologic examination. At the present time, approximately 95 per cent of the suspected cases receive an otologic examination. This is progress.

TABLE No. 1

SCREENING AUDIOMETER TESTS
120,000 SCHOOL POPULATION

YEAR	PUPILS TESTED	SUSPECTED CASES	%
'35-'36	21,815	1465	6.7
'36-'37	15,546	1147	7.3
'37-'38	15,404	841	5.4
'38-'39	11,086	853	7.6
'39-'40	11,701	864	7.4
'40-'41	11,221	682	6.1
'41-'42	6,611	236	3.6
*'42-'43	15,011	468	3.1
'43-'44	19,129	375	2.0
'44-'45	20,624**	405	2.0
TOTAL	148,148	7,336	5.0

*School population increased 30,000
**3800 done by pure tone sweep-check

COMPARISON OF TWO MAIN METHODS OF SCREENING

The reasons for our having changed from the group, or phonograph, method of screening to the sweep-check method are as follows:

1. There are three groups of children who require three and four screenings by the phonograph method before they can be properly classified as a suspected case. These are the low intelligence cases, poor group work cases, and the poor or slow writers. Since the sweep-check method is an individual examination, nearly all of these cases can be classified at the end of the first repeat screening.
2. Contrary to opinions expressed by other workers in this field, the percentage of suspected cases by the sweep-check method was found to be very little higher than by the older method. In 1940, the writer supervised the screening of 2,068 children by both methods. Each child was screened and rescreened by both methods on the same day. There were 118 suspected cases by the phonograph method, or 5.75 per cent. Five cases were thought to be of normal hearing by the phonograph method but were picked up by the sweep-check method. No cases picked up by the phonograph method were passed by the sweep-check method. These 5 cases only raised the percentage to 5.94 per cent. *However*, each one of these 5 cases proved to have rather severe high frequency losses without proved etiology. At least from an educational viewpoint it is essential that these cases be detected as early as possible.
3. By following the technics described above, approximately the same number of children can be screened in a given time by either method.

ANALYSIS OF SCREENING FIGURES

By examining table No 1, it can be seen that the percentage of suspected cases is definitely decreasing. In the writer's opinion, the chances of an actual case going undetected today is about one-tenth as great as it was ten years ago. This seemingly marked discrepancy can be explained as follows:

1. During the early years of this screening, approximately 35 per cent of these suspected cases had no hearing impairment. Today,

only about 5 per cent of the suspected cases are found to have normal hearing.

2. There has been a marked decrease in the number of cases of otitis media. In the Cleveland school population today we know of 72 cases of active otitis media. During the year 1936 to 1937 we knew of over 600 cases. It is appreciated that this was during the rapid strides in chemotherapy, nevertheless, the Public Education Program that was instituted should share equal credit for this progress.

INDIVIDUAL OTOLOGIC EXAMINATION

As stated above, the individual otologic examinations are conducted on an appointment basis at the main hearing center, Alexander Graham Bell School. The testing room is acoustically treated but far from sound-proof. In the writer's opinion too much stress has been laid on the necessity of testing in a sound-proof room. When a person says that a patient cannot be tested when his threshold is below the noise level of the room, that person has a lot to learn about acoustics. *With very few exceptions, we will not examine a child unless one of the parents is present.* The reason for this will be outlined later.

The otologic examination consists of three parts, namely, (1) the history; (2) the ear, nose and throat examination; and (3) an accurate hearing test both to pure tones and speech. The obtaining and recording of an accurate history is very important. As a matter of fact, the writer has often said, and still believes, that if he had to give up one of the three parts of this examination it would be the audiometer test. If necessity required the elimination of two parts, the history would be the part that was retained. One can make a rather good pure tone air conduction audiometric curve from an accurately obtained history. The essential points in such a history are: the dates of earaches, their severity and frequency; similar details about purulent discharge; types and effectiveness of therapy; how much the parent thinks that the hearing is impaired; history of similar trouble in forebearers; and age incidence of common diseases.

An accurate examination of the ear drums and nasopharynx is made. A cursory examination of the nose, mouth and throat is made. These are both recorded in an easily understood manner. An accurate air conduction pure tone audiometric test is made covering all frequencies up to and including 8192. If necessary for diagnostic purposes, accurate bone conduction testing is done and recorded. A speech test is then done using the microphone circuit through the audiometer. From these findings a percentage of speech hearing loss can be computed. As previously reported by this writer, we are continually comparing this figure with the figure obtained by calculation from the pure tone findings as recommended by the American Medical Association. They still compare quite favorably in most cases. Fully realizing that it is dangerous to calculate such figures any closer than the accuracy of the testing, nevertheless, a percentage figure if properly computed is much to be preferred over the host of other nondescriptive figures that one finds in the literature. *There is one point with which we are not in agreement. Why should we record hearing in terms of loss when every other physiological measurement is recorded in terms of capacity? In Cleveland, we record how much hearing a patient has rather than the amount of loss.*

Early in the development of this program, one of the big stumbling blocks was the inability to convince the parents that we were dealing with a serious situation. This was doubly difficult if the parent took the child to a physician who after a wholly inadequate test told the parent that the hearing was normal. This has been completely eliminated by having a parent present at the examination. By allowing the parent to hear one or two frequencies which the child very positively says that he can not hear, the selling job is completed. The most positive person in the world can not unsell this idea and, furthermore, the parents will then be willing to do something about the condition.

TABLE No. 2

CLASSIFICATION AND DISPOSITION OF CASES AFTER COMPLETE INDIVIDUAL EXAMINATION

Group No. 1

Cases with no hearing and cases with hearing of no better than 30 per cent in the better ear. These cases are permanently transferred to a special school, ALEXANDER GRAHAM BELL.

Group No. 2

Cases with a probably permanent impairment and whose hearing is no better than 50 per cent in the better ear. These cases are transferred to one of four Hearing Conservation Centers. Except for athletics and other group work they are under a speech reading teacher and use group hearing aids all day.

Group No. 3

Cases with a potentially remediable impairment and whose hearing is no better than 70 per cent in the better ear. These cases are transferred for from one to three years to a Hearing Conservation Center and are under a speech reading teacher about one and one-half hours per day. The rest of their time they are in regular classes in that building.

Group No. 4

Cases with repeated temporary impairments and cases whose hearing is no better than 85 per cent in the better ear. These cases receive about one and one-half hours of auricular training each week at The Cleveland Hearing and Speech Center. This is a Community Fund agency.

Group No. 5

Cases with an occasional temporary impairment of a bilateral nature and cases with normal hearing in one ear. Recommendations as to classroom seating are made in cases of the latter type.

FOLLOW-UP AFTER INDIVIDUAL EXAMINATION

After the case has been diagnosed and classified into its proper group, the findings and recommendations are recorded on the consultation blank that had been forwarded to Alexander Graham Bell school. This blank is then returned to the school from which the child was referred. It is then permanently attached to the child's health card. If the case has been classified into groups Nos. 1, 2 or 3, the parent and child are given an immediate interview by the principal of Alexander Graham Bell school. If the recommended transfer is agreed to, the arrangements are made at this time. If the case is classified into Group No. 4, the parent is given an instruction slip advising him or her as to how he may contact The Cleveland Hearing and Speech Center. At the same time, the director of this center is advised about this case. When the child is enrolled in one of their classes this notification slip is destroyed. Until it is destroyed, the parents are contacted again and again until the child becomes enrolled. In these milder cases, one or two home calls by the social worker are sometimes necessary.

There are several types of cases that are put on what we refer to as our "Call Back Cards." These cases are as follows: active otitis media in one or both ears, potentially improvable hearing impairments for which medical treatment has been recommended, cases

that have been classified in either group Nos. 1, 2 or 3 but whose parents have not consented to the transfer at that time. We have a "call back" card for every month in the school year. We can arrange to call the children back in three, six or twelve months depending upon the circumstances.

A program as presented above can work in any community. Certain changes could be made to meet local conditions. Just as this program has been changed many times in the past, it will continue to be altered as necessity demands.

10515 Carnegie Ave.

TABLE NO. 3

ANALYSIS OF FINDINGS DURING PAST TEN YEARS

COMPLETE INDIVIDUAL EXAMINATIONS

CLASSIFIED	NUMBER	%
No. 1	232	12.2
No. 2	129	6.8
No. 3	165	8.7
No. 4	373	19.6
No. 5	867	45.6
Normal	134	7.1
Total	1900	

TABLE NO. 4

GROUP NO. 1 CASES

	NO HEARING	PARTIAL	TOTAL
Proved Congenital	69	10	79
Unknown Cause	28	37	65
Meningitis	26	0	26
Otitis Media	3	18	21
Birth Injury	10	5	15
Infectious Diseases	7	11	18
Proved Trauma	2	2	4
Normal Drums—			
Good B. C.	0	4	4
Totals	145	87	232

TABLE NO. 5

CASES IN GROUPS NOS. 2 AND 3

	NO. 2	NO. 3
Otitis Media	66	115
Normal Drums		
Poor B. C.	55	34
Normal Drums		
Good B. C.	8	16
Totals	129	165

COUNCIL MINUTES

American Academy of Ophthalmology and Otolaryngology

October 6 and 7, 1945

Palmer House, Chicago

The meeting was called to order by President New at 10:20 a.m.

Present: Gordon B. New, Alan C. Woods, Edmund B. Spaeth, W. H. Johnston, Brittain F. Payne, Ralph I. Lloyd, Lawrence T. Post, William L. Benedict, O. E. Van Alyea, Algernon B. Reese, Dean M. Lierle, A. D. Ruedemann, Erling W. Hansen, Derrick Vail, Carl H. McCaskey, James M. Robb, C. D. Blassingame.

I

The Executive Secretary gave the following report:

1. Fellowship as of October 1, 1945:

Junior Fellows	3,090
Senior Fellows	254
Life Fellows	280
Honorary Fellows	21
	3,645

2. Fellows to be elevated to Senior Fellowship on January 1, 1946:

Alden, Arthur M., St. Louis, Mo.
Bahn, Charles A., New Orleans, La.
Beattie, Wm. Henry, Utica, N. Y.
Brickley, Daniel W., Marion, Ohio
Brown, Mortimer G., Syracuse, N. Y.
Buvinger, Charles W., East Orange, N J.
Coates, George M., Philadelphia, Pa.
Cohen, Samuel, Philadelphia, Pa.
Darmer, George A., Aurora, Ill.
Dintenfass, Henry, Philadelphia, Pa.
Hughes, T. E., Richmond, Va.
Husik, David N., Philadelphia, Pa.
Jordan, George T., Vermillion, S. D.
King, Edward, Cincinnati, Ohio
Lewis, Fielding O., Media, Pa.
Reese, Warren S., Philadelphia, Pa.
Schlanser, Adam E., Fort Riley, Kans.
Williams, Walton H., Middletown, Ohio
Zentmayer, William, Philadelphia, Pa.

3. Fellows to be elevated to Life Fellowship on January 1, 1946:

Beatty, H. G., Columbus, Ohio
Beem, Ione F., Chicago, Ill.
Blue, J. B., Memphis, Tenn.
Charlton, C. Coulter, Atlantic City, N. J.
Clark, H. S., Minneapolis, Minn.
Fallows, H. D., Mason City, Iowa
Hauer, A. M., Columbus, Ohio
Keith, W. E., Kansas City, Mo.
King, H. O., Hot Springs, Ark.
Larkin, Bernard J., Indianapolis, Ind.
Larsen, Carl L., St. Paul, Minn.
Lehan, James W., Greeley, Colo.
Levy, Louis, Memphis, Tenn.
Luedde, W. H., St. Louis, Mo.
Macfarlane, P. B., Hamilton, Ont., Canada
Maybaum, J. L., New York, N. Y.
Moore, G. A., Palmer, Mass.
Powers, Everett, Carthage, Mo.
Quittner, S. S., Cleveland, Ohio
Ralls, C. T., Winfield, Kans.
Reeder, J. E., Sioux City, Iowa
Roberts, S. E., Kansas City, Mo.
Rucker, E. W., Birmingham, Ala.
Schappert, N. Louis, Wilkes Barre, Pa.
Scholz, R. P., St. Louis, Mo.
Sedwick, W. A., Denver, Colo.
Shea, J. J., Memphis, Tenn.
Spengler, John A., Geneva, N. Y.
Spitze, E. C., East St. Louis, Ill.
Stanford, J. B., Memphis, Tenn.
Stotter, Arthur L., Cleveland, Ohio
Thomas, Francis W., Columbus, Ohio
Turnbull, F. M., Los Angeles, Calif.
Weil, A. I., New Orleans, La.

4. The following deaths have been reported for the year:

James Addison Babbitt, Philadelphia, Pa.
Michael V. Ball, Warren, Pa.
Donald A. Bartley, Indianapolis, Ind.
Louis Joseph Burns, Philadelphia, Pa.
William King Campbell, Long Branch, N. J.
George J. Dennis, Chicago, Ill.
George Sloan Dixon, New York, N. Y.
Alfred Gibson Farmer, Dayton, Ohio

Some items are omitted from this report. Complete minutes are on file in the office of the Executive Secretary-Treasurer.

Valentine Benjamin Fischer, Boulder, Colo.
Luther Sexton Fortenberry, Houma, La.
Charles Herbert Fox, Denver, Colo.
Ira Frank, Chicago, Ill.
John Simpson Gordon, Milwaukee, Wis.
John Albert Hagemann, Pittsburgh, Pa.
Clark Barrows Hatch, Newark, Ohio
George Edwin Hourn, St. Louis, Mo.
Lee Maidment Hurd, Rawayton, Conn.
L. C. Ingram, Orlando, Fla.
Douglas P. A. Jacoby, Newport, R. I.
William Franklin Keim, Newark, N. J.
Frederick Krauss, Philadelphia, Pa.
Robert Levy, Denver, Colo.
Hugh Spencer McKeown, New York, N. Y.
William Alexander Macpherson, Huntington Park, Calif.
Benjamin Harry Mann, Philadelphia, Pa.
Edwin Manson Neher, Laguna Beach, Calif.
Horace Newhart, Minneapolis, Minn.
Charles Terrell Porter, Boston, Mass.
F. H. Rosebrough, San Antonio, Texas
Albert Walton Roth, Tulsa, Okla.
Hyman John Rubenstein, New York, N. Y.
Mark J. Schoenberg, New York, N. Y.
Vergil Rex Sink, Winston-Salem, N. C.
Arthur Edward Smith, Minneapolis, Minn.
Edward Dorland Smith, Bridgeport, Conn.
Carl Foster Snapp, Grand Rapids, Mich.
Clarence S. Trimble, Emporia, Kans.
Charles E. Walker, Jr., Denver, Colo.
Thomas F. Welsh, Salt Lake City, Utah
Thompson Flournoy Wickliffe, Jasper, Ala.
William Irving Wiggin, Lowell, Mass.
Thomas J. Williams, Evanston, Ill.
Wright Charles Williams, Peoria, Ill.

5. Registration at the 1944 Convention was as follows:

Fellows	1,239
Guests	378
Candidates	84
Exhibitors	147
Ladies	298
	2,146

II

The Treasurer submitted the audit for 1944 made by Shannon & Byers, Certified Public Accountants, which was published in the May-June 1945 issue of the TRANSACTIONS.

April 27, 1945

The American Academy of
Ophthalmology and Otolaryngology
Rochester, Minnesota

Gentlemen:

As requested, we have examined the accounts and records of The American Academy of Ophthalmology and Otolaryngology, an unincorporated association, for the period from September 1, 1943 to December 31, 1943 and for the calendar year ended December 31, 1944, and have prepared therefrom the accompanying Balance Sheet, Statements of Operations, and Analysis of Net Worth, together with a schedule showing a list of securities owned on December 31, 1944. We have also reviewed the system of internal control and accounting procedures and, without making a detailed audit of cash receipts and disbursements and other transactions, have examined or tested accounting records and other supporting evidence, by methods and to the extent we deemed appropriate.

The amount of cash on deposit was verified by communicating with the various depositories, and the petty cash fund was verified by actual count.

Investments in stocks and bonds had a market value of $130,066.93 on December 31, 1944, as shown in Schedule No. 1.

Securities in the Research Fund, which are held for safekeeping by the Trust Department of the First National Bank, Minneapolis, Minnesota, were verified by communicating with the custodian of the securities. U. S. Savings Bonds in the Wherry Memorial Fund are held by the Executive Secretary-Treasurer and were inspected by us. Interest earned on bonds since the dates on which the last coupons became due has not been accrued.

Furniture, fixtures and equipment amounting to $3,234.83 represent equipment acquired by the Academy over a period of years. Of this amount, $1,814.55 was purchased since September 1, 1942 and was for the most part verified through an inspection of supporting vouchers. Equipment acquired in years prior to September 1, 1942, which had been charged to operating expenses as purchased, was inventoried and appraised at a market value of $1,420.28 as of January 1, 1944 and set up on the books for that amount. Depreciation has been deducted and charged to operations at a rate that appears to be adequate.

Current liabilities of $318.98 consist of federal Withholding Tax deductions. Some current general expenses are usually paid in the month following the one in which they

are incurred, and those payable at the close of the year have therefore not been included under current liabilities. Employees' salaries, however, were paid in full to December 31, 1944.

Upon examining the insurance policies in force, we found Owners & Tenants Public Liability insurance in the amount of $5,000—$10,000 coverage, and Workmen's Compensation subject to statutory amounts. The Executive Secretary-Treasurer and Chairman of the Finance Committee are bonded in the amount of $5,000.00. We recommend that other employees in the office who handle checks and cash, be likewise bonded. No insurance is being carried on office furniture, fixtures and equipment and we believe it advisable to have this equipment protected by at least fire and tornado coverage.

Respectfully submitted,

SHANNON & BYERS

Certified Public Accountants

By L. J. Byers, C.P.A.

Exhibit "A"

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Balance Sheet as at December 31, 1944

ASSETS

Current Assets:		
Cash, First Nat'l Bank, Rochester, Minn.	$6,357.20	
Cash, First Nat'l Bank, Minneapolis, Minn.	3,764.19	
Cash, Bank of Montreal, Toronto, Ontario	2,298.59	
Cash, petty cash fund	25.00	
Membership dues receivable (Delinquent)	1,245.00	
Total current assets		$ 13,689.98
Investments: (Schedule 1)		
Stocks and bonds (at market value)		130,066.93
Furniture, Fixtures and Equipment	3,234.83	
Less reserve for depreciation	398.34	2,836.49
Prepaid Insurance		31.36
Total Assets		$146,624.76

LIABILITIES

Current Liabilities:		
Accrued Withholding taxes		$ 318.98
Net Worth (To Exhibit "D")		146,305.78
Total Liabilities and Net Worth		$146,624.76

Exhibit "B"

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Statement of Operations

Year Ended December 31, 1944

Revenues:			
Membership dues			$19,269.00
Membership applications			3,468.00
Atlases			1,400.00
Certificates			643.00
Transactions			16,258.08
Home Study Courses			2,765.00
Convention			36,944.66
Contributions, Wherry Memorial Fund			25.00
Income from securities:			
Int., Research Fund	$2,683.34		
Div., Research Fund	1,036.07		
	3,719.41		
Interest, Wherry Memorial Fund	115.00	3,834.41	
Fixed assets (equipment) sold			100.00
Refund, Unemployment payroll taxes			195.42
Sundry receipts			39.67
Total Revenues			$84,942.24
Operating Expenses:			
General administrative	21,518.14		
Transactions	14,248.81		
Home Study Courses	3,083.95		
Research	330.28		
Conventions and meetings	22,123.31		
Total operating expenses			61,304.49
Operating Income			23,637.75
Other Deductions: Loss on securities sold			2,955.02
Net Income			$20,682.73

Exhibit "C"

AMERICAN ACADEMY OF
OPHTHALMOLOGY AND OTOLARYNGOLOGY

Statement of Operations:
Period from Sept. 1, 1943 to Dec. 31, 1943

Membership dues		$ 718.00
Membership applications		799.00
Atlases		784.00
Transactions		2,060.55
Home Study Courses		400.85
Convention		24,195.01
Contributions, Wherry Memorial Fund		10.00
Certificates		628.00
Income from securities:		
Int., Research Fund	$ 386.75	
Div., Research Fund	637.97	1,024.72
Total Revenues		$30,620.13
Operating Expenses:		
General administrative	21,518.14	
Transactions	6,563.67	
Home Study Courses	1,120.96	
Conventions and meetings	17,800.11	
Total operating expenses		33,533.73
Net Operating Loss		$ 2,913.60

Exhibit "D"

AMERICAN ACADEMY OF
OPHTHALMOLOGY AND OTOLARYNGOLOGY

Analysis of Net Worth Account
For Period Ended December 31, 1944

Net Worth, August 31, 1943 (*)		$120,066.50
Additions:		
Net income, year ended December 31, 1944	$20,682.73	
Increase in market value of securities from 9/1/43 to 12/31/44 (†)	7,049.87	
Appraisal value of office furniture, fixtures, and equipment as of 1/1/1944, charged to operating expenses prior to 9/1/1942	1,420.28	
Total additions		29,152.88
		149,219.38
Deductions:		
Operating loss, period from Sept. 1, 1943 to Dec. 31, 1943		2,913.60
Net Worth, Dec. 31, 1944		$146,305.78

(*) Does not include January 1, 1944 market value of office furniture, fixtures and equipment purchased prior to September 1, 1942, which had been charged directly to operating expenses.

(†) *Increase in Market Value of Securities*

	COST	MARKET	INCREASE DECREASE
8/31/43	$113,451.02	$ 94,424.46	$19,026.56
12/31/44 (Schedule 1)	142,043.62	130,066.93	11,976.69
Difference	$ 28,592.60	$ 35,642.47	$ 7,049.87

SCHEDULE No. 1

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Securities Owned, December 31, 1944

RESEARCH FUND

BONDS	RATE	MATURITY	PAR VALUE	COST	MARKET VALUE
Brooklyn Edison Co., Inc. Cons.	3¼	5/15/66	$ 3,000.00	$ 3,045.00	$ 3,251.25
Citizens Building Co. of Cleveland, 1st Leasehold Sinking Fund	6	1/1/46	5,000.00	5,000.00	.....
Dominion of Canada, Conv. Loan, Ser. R8	4½	11/1/58	5,000.00	4,950.00	(*) 4,868.75
Kingdom of Denmark, External loan	5½	8/1/55	2,000.00	2,020.00	1,580.00
Union Pacific R. R. Co., 35 year Debenture	3½	5/1/71	6,000.00	5,947.50	6,405.00
Van Sweringen Co., Certificate of Indebtedness, Ser. 1925	6	12/31/48	6,000.00	6,031.33	840.00
U. S. A. Savings, Series D	...	4/1/49	10,000.00	7,500.00	8,500.00
U. S. A. Savings, Series D	...	3/1/50	10,000.00	7,500.00	8,400.00
U. S. A. Savings, Series G	2½	8/1/53	10,000.00	10,000.00	9,510.00
U. S. A. Savings, Series G	2½	6/1/55	4,000.00	4,000.00	3,876.00
U. S. A. Savings, Series F	...	12/1/55	13,500.00	9,990.00	10,017.00
U. S. A. Savings, Series G	2½	3/1/56	6,000.00	6,000.00	5,928.00
U. S. A. Savings, Series G	2½	5/1/56	8,000.00	8,000.00	7,904.00
U. S. A. Savings, Series G	2½	7/1/56	2,000.00	2,000.00	1,976.00
U. S. A. Savings, Series G	2½	11/1/56	25,000.00	25,000.00	24,700.00
Total Bonds				$106,983.83	$ 97,756.00

STOCKS	KIND	PAR VALUE	SHARES		
Citizens Bldg. Co., Cleveland		No Par	50	None	.....
Commonwealth Edison Co.	Com'n	$25.00	100	2,619.00	2,887.50
E. I. du Pont de Nemours & Co	Com'n	20.00	15	2,347.31	2,330.63
Louisville Gas & Electric Co.	5% Prf.	25.00	200	5,450.00	5,800.00
Massachusetts Investors Trust		1.00	600	17,513.00	14,025.00
Ophthalmic Publishing Co.	Capital	20.00	5	None	.....
Philip Morris & Co. Ltd.	Com'n	10.00	30	2,530.48	2,805.00
Total Stocks				$ 30,459.79	$ 27,848.13
Total Research Fund			(A)	$137,443.62	$125,604.13

WHERRY MEMORIAL FUND

U. S. A. Savings, Series G			(B)	4,600.00	4,462.80
Total				$142,043.62	$130,066.93

(*) U. S. Dollars

(A) Held for safekeeping by Trust Dept. of First National Bank, Minneapolis, Minn.

(B) Held by Dr. W. L. Benedict, Executive Secretary-Treasurer, Rochester, Minn.

Statement of operations for the first nine months of the current fiscal year:

Exhibit "A"

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Balance Sheet as of September 30, 1945

ASSETS

Current Assets:		
Cash, First Nat'l Bank, Rochester, Minn.	$ 10,904.60	
Cash, Bank of Montreal	409.05	
Cash, First Nat'l Bank & Trust Co., Minneapolis	4,850.18	
Checks for Collection	10.21	
Petty Cash Fund	25.00	
Membership Dues Receivable	836.00	
Total Current Assets		$ 17,035.04
Investments:		
Research Fund	150,065.81	
Wherry Memorial Fund	4,600.00	
	154,665.81	
Less: Reserve for Market Fluctuations to 12/31/44	11,976.69	
Total Investments		142,689.12
Fixed Assets:		
Furniture and Fixtures	3,699.89	
Less: Reserve for Depreciation	668.34	
Total		3,031.55
Prepaid Insurance		84.48
Total Assets		$162,840.19

LIABILITIES

Current Liabilities:		
Accrued Victory—Withholding Taxes		
Accrued Expenses—(Ins.)		
Net Worth:		
Balance, January 1, 1945	$146,305.78	
Excess, Income over Expenses, Year to Date	16,534.41	
Total		162,840.19
Total Liabilities		$162,840.19

Exhibit "B"

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Statement of Income and Expenses for Month Ending September 30, 1945 and Year to Date

	September 1945	1/1/45 to 9/30/45
Revenues:		
Membership Dues	$ 10.00	$17,522.00
Membership Applications	34.00	2,006.00
Atlases	195.00	789.90
Certificates		27.00
Transactions	1,192.39	17,535.17
Home Study Courses	710.00	3,180.00
Convention	186.20	923.30
Other Income	2.50	4.55
Income from Securities:		
Research Fund:		
Interest	75.00	1,274.38
Dividends	18.75	963.75
Wherry Memorial Fund:		
Interest	7.50	115.00
Total Revenues	$2,431.34	$44,341.05
Operating Expenses:		
General Administrative	1,487.26	13,249.96
Transactions	1,120.20	8,847.43
Home Study Courses	254.28	2,310.55
Research		579.28
Convention and Meetings	166.52	2,819.42
Total Operating Expenses	3,028.26	27,806.64
Excess Income Over Expenses Dr	$ 596.92	16,534.41

SCHEDULE No 1

AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY

Securities Owned, September 30, 1945

RESEARCH FUND

BONDS	RATE	MATURITY	PAR VALUE	COST
Brooklyn Edison Co., Inc.	3¼	5/15/66	$ 3,000.00	$ 3,045.00
Canada, Dominion of — 1931 Conv. Loan	4½	11/1/58	5,000.00	4,950.00
Canada, Dominion of — Series P5	3	10/1/63	2,500.00	2,500.00
Citizens Bldg. Co. of Cleveland, 1st Mtg.	6	1/1/46	5,000.00	5,000.00
Union Pacific Ry. Co. — 35 yr. Deb	3½	5/1/71	6,000.00	5,947.50
U. S. Savings Bonds — Series D		4/1/49	10,000.00	7,500.00
U. S. Savings Bonds — Series D		3/1/50	10,000.00	7,500.00
U. S. Savings Bonds — Series F	2½	12/1/55	13,500.00	9,990.00
U. S. Savings Bonds — Series G	2½	8/1/53	10,000.00	10,000.00
U. S. Savings Bonds — Series G	2½	6/1/55	4,000.00	4,000.00
U. S. Savings Bonds — Series G	2½	3/1/56	6,000.00	6,000.00
U. S. Savings Bonds — Series G	2½	5/1/56	8,000.00	8,000.00
U. S. Savings Bonds — Series G	2½	7/1/56	2,000.00	2,000.00
U. S. Savings Bonds — Series G	2½	11/1/56	25,000.00	25,000.00
U. S. Savings Bonds — Series G	2½	1/1/57	2,000.00	2,000.00
U. S. Savings Bonds — Series G	2¼	6/15/62	5,000.00	5,076.56
U. S. Savings Bonds — Series G	1½	12/15/50	5,000.00	5,065.63
Van Sweringen Co., Cert. of Indebtedness	6	12/31/48	6,000.00	6,031.33
Total Bonds				$119,606.02

STOCKS	KIND	SHARES	
Citizens Bldg. Co. of Cleveland		50	None
Commonwealth Edison Co.	Common	100	$ 2,619.00
DuPont de Nemours and Co.	Common	15	2,347.31
Louisville Gas and Electric Co.	5% Preferred	200	5,450.00
Massachusetts Investors Trust		600	17,513.00
Ophthalmic Publishing Co.	Capital	5	None
Philip Morris and Co., Ltd.	Common	30	2,530.48
Total Stocks			$30,459.79
Total Research Fund		(A)	$150,065.81

WHERRY MEMORIAL FUND

U. S. Savings Bonds — Series G		(B)	4,600.00
Total			$154,665.81

(A) Held for safekeeping by Trust Dept., First National Bank, Minneapolis, Minn.
(B) Held by Dr. W. L. Benedict, Executive Secretary-Treasurer, Rochester, Minn.

Moved and seconded that the report be accepted. Carried.

III

As Editor-in-Chief of the TRANSACTIONS, Dr. W. L. Benedict made the following report:

The TRANSACTIONS of the Academy have been published bimonthly. Included in the issues of the past year from September 1944 through August 1945 have been an account of the 1944 convention, complete with minutes and committee reports, and the scientific programs and papers presented. The mailing load is 4,000 copies of each issue of the TRANSACTIONS. We have 43 subscriptions from outside the association and 14 on the exchange list. Ninety-one medical libraries are supplied free of charge. Advertising has been accepted from 27 different firms during the year.

The Editorial Board has supervised the publication of one monograph and one supplement in addition to the regular six issues and directory supplement.

Dr. Alan C. Woods suggested that we take up with the American Hospital Association the matter of sending all hospitals free TRANSACTIONS.

IV

The Executive Secretary presented the following communications:

1. The question of whether or not the 1945 officers should carry over for 1946 was referred to the Board of Councillors.
2. The question of accepting for Fellowship the 1945 candidates without the vote of a general assembly was referred to the Board of Councillors.
3. The question of reduced dues for Fellows in active military service was referred to the Executive, Research and Finance Committee.
4. Investment of Academy funds was referred to the Executive, Research and Finance Committee.
5. It was moved by Dr. W. L. Benedict and seconded by Dr. Ralph I. Lloyd that in Article II, 1 (a) and in Article V, Sections 1 and 2 of the By-Laws, the word "entrance" fee be changed to "application" fee to correspond with the wording of the Constitution. Motion carried.
6. A communication from Dr. Paul C. Craig, Secretary of the American Association of Eye, Ear, Nose and Throat Society Secretaries, suggesting that the Academy act as host to Latin American colleagues at future Pan-American Congresses.
7. Complaints about lack of promotion from Academy Fellows in military service were referred to Dr. Derrick Vail.
8. A communication from Dr. Harry Gradle reported that he has as his assistants in the Home Study Courses Dr. Daniel Snydacker in ophthalmology and Dr. L. Benno Bernheimer in otolaryngology. Dr. W. L. Benedict reported that the Home Study registration as of September 20, 1945, was: ophthalmology, 205; otolaryngology, 81. Dr. Benedict spoke for a closer association between the Home Study and the annual Instructional Courses.
9. Dr. Ruedemann presented a plan for reorganizing the Convention program for better utilization of all hotel facilities. After some discussion of the plan, it was decided that action should not be taken at this time, that the Secretaries give further consideration to the plan at the Program Committee meeting in January.
10. Dr. Benedict suggested that the Council meeting be held next year a day or two before the Convention to eliminate the usual morning meetings. Approved.

V

Report of the Activities Committee—Dr. Derrick Vail, Chairman: (Full reports of standing and joint committees are printed following the minutes.)

Reports from the following Standing Committees were received and reviewed by the Activities Committee:

1. Registry of Ophthalmic Pathology.
2. Registry of Otolaryngic Pathology.
3. Committee on Conversation of Hearing made no report.
4. Committee for the Revision of Pathologic Atlases.
5. Committee on Standardization of Tonometers.
6. Committee on Pan-American Congress of Otolaryngology offered no report.
7. Committee on the Scientific Exhibit made no report.
8. Committee on the Michigan Plan for Postwar Graduate Instruction offered no report.
9. Committee on the Study of Immediate Postwar Education of Ophthalmologists Discharged from Service offered no report.
10. Committee on the Study of Immediate Postwar Education of Otolaryngologists Discharged from Service.

The Activities Committee recommended that the following committees be discharged. Motion carried.

1. Committee on the Michigan Plan for Postwar Graduate Instruction.
2. Committee on the Study of Immediate Postwar Education of Ophthalmologists Discharged from Service.
3. Committee on the Study of Immediate Postwar Education of Otolaryngologists Discharged from Service.

Reports from Joint Committees were received and reviewed as follows:

11. Advisory Committee to the Eye Health Committee of the American Student Health Association.
12. American Board of Ophthalmology.
13. American Board of Otolaryngology.
14. American Committee on Optics & Visual Physiology.
15. American Orthoptic Council.

16. Committee on Industrial Ophthalmology.
17. Committee on the American Association for the Advancement of Science offered no report.

VI

Report of the Board of Councillors—Dr. Derrick Vail, Chairman:

1. Recommended that the officers for 1945 carry over for 1946. Moved by Dr. Dean M. Lierle and seconded by Dr. A. D. Ruedemann that this recommendation be accepted. Carried.
2.
3.
4.
5.
6.
7.
8.
9. The Board of Councillors recommended the following 160 candidates as acceptable for Fellowship in the Academy. Moved by Dr. Lawrence T. Post and seconded by Dr. Erling W. Hansen that this report be approved. Carried. Motion made by Dr. Ralph I. Lloyd that these candidates be notified that they have been approved by the Council but their election must be postponed until the next general assembly. They will not be billed on January 1, 1946 for 1946 dues, but on January 1, 1947, they will be billed for both 1946 and 1947. The date of their election will be retroactive to October, 1945. Motion seconded by Dr. Alan C. Woods and carried.

Abrams, Murray, Major (MC), A.P.O. 322, c/o Postmaster, San Francisco, Calif., ALR.

Altmann, Franz, 10 East 85th St., New York, N. Y., ALR.

Ashley, Richard Warner, Major (MC), A.P.O. 408, c/o Postmaster, New York, N. Y., OP.

Atkins, Joseph Preston, 250 S. 18th St., Philadelphia, Pa., ALR.

Auslander, Milton Manuel, Capt. (MC), Key Field Army Air Base, Meridian, Miss., ALR.

Bancks, Howard Raymond, 2675 Lenox Rd., Brooklyn, N. Y., ALR.

Bau, Hyman William, 3152 W. Roosevelt Road, Chicago 12, Ill., ALR.

Beetham, William P., 108 Bay State Road, Boston, Mass., OP.

Bender, Rosarie Rossell, 195 Linwood Avenue, Buffalo, N. Y., ALR.

Bernasconi, Ezio Joseph, Major (MC), 11 River Ave., Providence, R. I., OP.

Black, Vernon Anderson, 105 Hawes St., Wharton, Texas, OP.

Bogdasarian, Robert Michael, 108 Oak St., Binghamton, N. Y., ALR.

Brennan, James William, 11 Horton Place, Buffalo, N. Y., OP.

Brikates, Peter, 140 East 54th St., New York, N. Y., OP.

Burman, Daniel, 121 First St., Newburgh, N. Y., ALR.

Busby, William, Jr., Station Hospital, Camp Myles Standish, Taunton, Mass., ALR.

Carey, Edward Thomas, Capt. (MC), A. P. O. 920, c/o Postmaster, San Francisco, Calif., ALR.

Cerny, Frank Joseph, Lt. (MC), Veterans Administration, Dayton, Ohio, OP.

Chamberlin, Ira Iowa, 4 Chestnut St., Springfield, Mass., ALR.

Chester, Lewis, Capt. (MC), 29 Camp St., New Britain, Conn., ALR.

Chevigny, Julius James, 504 Broadway, Gary, Ind., ALR.

Cockrum, William Marion, 908 Hulman Bldg., Evansville, Ind., OP.

Cole, John Gordon, 780 Park Ave., New York, N. Y., OP.

Collins, Arthur D., Capt. (MC), McCloskey General Hospital, Temple, Texas, OP.

Craig, Stuart Lessley, 135 East 65th St., New York 21, N. Y., ALR.

Crandall, Alan Slade, 313 S. 17th St., Philadelphia 3, Pa., OP.

Croll, Maurice, Capt. (MC), Station Hospital, Camp McCoy, Wis., OP.

Crowe, Samuel James, Johns Hopkins Hospital, Baltimore, Md., ALR.

Cuthbert, Marvin Peare, Lt. (MC), Vaughan General Hospital, Hines, Ill., OP.

Cutler, Max Helix, 636 Church St., Evanston, Ill., ALR.

Davis, Ralph Allison, 4753 Broadway, Chicago, Ill., OP.

Duclos, Gaston Normand, No. 12 District Depot, Regina, Sask., Canada, ALR.

Ehrlich, Leon Herbert, 211 Central Park West, New York 24, N. Y., OP.

Eilert, John Harold, Lt. Comdr. (MC), U.S.N. Hospital, Camp Lejeune, N. C., OP.

Elwyn, Herman, 239 Central Park West, New York, N. Y., OP.

Estlick, Richard E., Capt. (MC), Wakeman General Hospital, Camp Atterbury, Ind., ALR.

Farmer, William Dempsey, Major (MC), 119 North Elm St., Greensboro, N. C., ALR.
Flack, Clarence Elbert, Lt. Comdr. (MC), USNR, U.S.N. Hospital, Shoemaker, Calif., OP.
Flickinger, Roger R., Capt. (MC), Kennedy General Hospital, Memphis, Tenn., ALR.
Flora, William Kenneth, Capt. (MC), Chico Army Air Field, Chico, Calif., ALR.
Fox, Nathan H., 4010 W. Madison, Chicago, Ill., OP.
Frazer, John Paul, 789 Howard Ave., New Haven, Conn., ALR.
Fried, Joseph John, 5 West 86th St., New York 24, N. Y., OP.
Gershon, Nathan Isaac, Lt. Comdr. (MC), U. S. Naval Hospital, Charleston, S. C., ALR.
Goldhammer, Samuel, Republic Bldg., Denver 2, Colo., OP.
Gordon, Dan Morris, 525 E. 68th St., New York 21, N. Y., OP.
Graham, George Albert, 40 Prospect Park West, Brooklyn 15, N. Y., OP.
Gromet, Maurice T., 2518 Avenue J., Brooklyn 10, N. Y., ALR.
Guerry, Du Pont, 3rd, 503 Professional Bldg., Richmond, Va., OP.
Gunderson, Harvey Clifford, 2001 Collingwood Ave., Toledo, Ohio, ALR.
Gurwin, Bernard J., 900 Seventeenth N. W., Washington, D. C., OP.
Gutkin, Morton Lewis, Capt. (MC), 6734 Sixth Ave., Brooklyn, N. Y., ALR.

Hanson, A. George, 1528 Medical-Dental Bldg., Seattle 1, Wash., OP.
Harper, De Witt Lawrence, 204 North Main, Greenville, S. C., ALR.
Helbling, Franklin Kirkland, Major (MC), 219 Vernal Ave., Santa Barbara, Calif., ALR.
Henderson, Charles Henry, 800 Park Ave., Norton, Va., OP.
Hipp, Walter, 140 East 54th St., New York 22, N. Y., OP.
Hooker, Lyle, 446 Esperson Bldg., Houston 2, Texas, OP.
Horsfield, Russell Thomas, 1315 Medical-Dental Bldg., Seattle 1, Wash., OP.
Howley, Bartley Maxwell, Navy Dispensary, Navy Dept., Washington, D. C., ALR.

Jaeckle, Charles Eisele, Lt. (MC), A.P.O. 408, c/o Postmaster, New York, N. Y., OP.
Jervey, James W., Jr., 101 Church St., Greenville, S. C., OALR.
Johnson, Carl Cordes, 5 Bay State Road, Boston 15, Mass., OP.
Johnson, Hobart Clemens, 839 Belgrade Ave., Mankato, Minn., OP.
Johnson, Roger Harry, 522 Cobb Bldg., Seattle, Wash., OP.

Katzin, Herbert Maurice, 1148 Fifth Ave., New York 28, N. Y., OP.
Kelly, Francis B., 519 Med. Prof. Bldg., Corpus Christi, Texas, OP.
Kennon, Beverley Randolph, 3rd., 908 Medical Arts Bldg., Norfolk, Va., OP.
Kilmann, Martin H., Capt. (MC), Walter Reed Gen. Hospital, Washington 12, D. C., OP.
Kuhn, Clifford W., Major (MC), 9545 S. W. 62nd Dr., Portland, Ore., ALR.
Kuntz, Herman William, 501 Hume-Mansur Bldg., Indianapolis, Ind., ALR.

Lee, Otis S., Jr., State University Hospitals, Iowa City, Iowa, OP.
Lenzen, Aloysius Francis, 222 Marquette St., LaSalle, Ill., OP.
Levin, Bert G., 1210 Lowry Bldg., St. Paul 5, Minn., ALR.
Lewis, Charles Kelley, 915 Madison Ave., Memphis, Tenn., ALR.
Lieberman, George Emanuel, 4206 Chestnut St., Philadelphia, Pa., ALR.
Lodge, Edmund Anderson, 79½ Prospect St., Gloucester, Mass., ALR.

McEwen, James Woods, Lt. Col. (MC), Station Hospital, Camp Campbell, Ky., OP.
McKenzie, George Edward, 602 DuPont Bldg., Miami, Fla., ALR.
Maier, Haskel Levitt, 807 Medical Arts Bldg., Tacoma 2, Wash., ALR.
Mather, Homer Raymond, Jr., Capt. (MC), A.P.O. 565, c/o Postmaster, San Francisco, Calif., OP.
Meer, Nadhim Edward, Lt. (MC), Wyckoff, N. J., ALR.
Meyer, Monte F., 645 Canal Bldg., New Orleans, La., ALR.
Miears, Claude H., 713 Scarbrough, Austin, Texas, ALR.
Miller, Claude K., Widby-Hadley Bldg., Wenatchee, Wash., OP.
Miller, Harold Rexford, 114 E. 54th St., New York 22, N. Y., OP.
Minsky, Armen A., Capt. (MC), 4557 Portland Ave. S., Minneapolis, Minn., ALR.

Monsees, Wayne Emerson, 233 A St., San Diego, Calif., OP.
Morse, Leo M., East Washington St., Suite 1523, Chicago, Ill., ALR.
Muirhead, Robert Mowatt, 8 East Broadway, Salt Lake City 1, Utah, ALR.
Munoz - MacCormick, Carlos Eduardo, Monterry Bldg., Park Terrace, Santurce, Puerto Rico, ALR.

Nantz, Frank A., 1137 Carew Tower, Cincinnati 2, Ohio, OP.
Naugle, Thomas Calvert, 618 College St., Columbus, Miss., ALR.
Nicholson, Charles T., Capt. (MC), Regional Station Hospital, Scott Field, Ill., ALR.
Noonan, Paul Ecret, Capt. (MC), AAF Reg. Hospital, Scott Field, Ill., ALR.

Osherwitz, Morris Stanford, Capt. (MC), A.P.O. 887, c/o Postmaster, New York, N. Y., OP.
Ostrom, Louis, 124 18th St., Rock Island, Ill., ALR.

Paradis, Charles Ovide, 625 Cleveland Ave. N.W., Canton 3, Ohio, ALR.
Parker, Harry Caunter, 673 Broadway, Gary, Ind., ALR.
Parkinson, Harold O., Major (MC), AAF ORD P.D.C. Regional Hospital, Greensboro, N. C., ALR.
Petix, Dominick Gilbert, 2615 Grand Concourse, Bronx, N. Y., OP.
Pfeiffer, Guy Oliver, 19-A South High St., Belleville, Ill., ALR.
Phillips, Warren Charles, 801 N. Second, Harrisburg, Pa., OP.
Pitkin, York Nones, Lt. Col. (MC), 10515 Carnegie Ave., Cleveland, Ohio, ALR.
Pohlman, David Alexander, Major (MC), A.P.O. 958 c/o Postmaster, San Francisco, Calif., ALR.
Popovich, Stephen J., 1930 Wilshire Blvd., Suite 617, Los Angeles, Calif., OP.
Price, F. Raymond, 118 Rutledge Ave., Charleston 16, S. C., OP.

Raggio, Francis Warren, Jr., Gordon Bldg., Lake Charles, La., ALR.
Rathgeber, Van D., 1305 Medical Arts Bldg., Ft. Worth, Texas, OP.
Ray, Joseph Carr, 914 Frances Bldg., Louisville, Ky., ALR.
Rein, Walter John, 501 E. Franklin St., Richmond, Va., OP.
Riesenbeck, Leo Henry, 831 Carew Tower, Cincinnati, Ohio, ALR.
Ripsteen, Joel Stanley, Capt. (MC), AAF Reg. Hospital, Davis-Monthan Field, Tucson, Ariz., ALR.
Rohm, Jack Zeth, Lt. Comdr. (MC), U. S. Naval Hospital, Bethesda, Md., ALR.
Roman, Stanley John, Capt. (MC), 1638 S.U. Med. Unit, Milwaukee, Wis., OALR.
Rosenberg, William, 25 E. Washington St., Rm. 1523, Chicago, Ill., OP.
Ross, Perry, W., Lt. Comdr. (MC), U.S. Naval Conval. Hospital, Glenwood Springs, Colo., OP.
Royce, Thomas L., 904 Holman, Houston, Texas, ALR.
Rucker, Ralph Weller, Major (MC), Regional Hospital, Sheppard Field, Wichita Falls, Texas, ALR.
Ruehl, William W., 7106 Jenkins Arcade, Pittsburgh 22, Pa., ALR.
Sannella, Lee George, 195 Thayer St., Providence, R. I., OP.
Schachat, Walter S., U. S. Marine Hospital, New Orleans, La., OP.
Scovis, I. John, U. S. National Bank Bldg., The Dalles, Ore., OP.
Shepard, Willis, B., Miner Bldg., Eugene, Ore., ALR.
Shofstall, Charles K., Balcony Bldg., Kansas City 2, Mo., ALR.
Shroder, Luther Null, Capt. (MC), AAF RS No. 3, Santa Monica, Calif., ALR.
Siniscal, Arthur Alfred, M. Trachoma Hospital, Rolla, Mo., OP.
Sirles, Wayne Pulley, 4850 Scott Ave., St. Louis 10, Mo., ALR.
Skinner, Merton Byron, Major (MC), 55 E. Washington, Chicago, Ill., ALR.
Slaughter, Howard Clarence, 908 Hulman Bldg., Evansville, Ind., OP.
Sommer, Ignatius George, 55 E. Washington, Chicago, Ill., OALR.
Southgate, Paul T., 302 Professional Bldg., Long Beach, Calif., OP.
Stagman, Joseph, 25 E. Washington St., Chicago, Ill., ALR.
Staman, Harry H., 49 W. Church St., Uniontown, Pa., ALR.
Stamm, Carl, 1737 Chestnut St., Philadelphia 3, Pa., ALR.
Staton, Younger A., Lt. (MC), USNR, Yard Dispensary, Navy Yard, S. C., OALR.
Steinberg, Nathan, Capt. (MC), A.P.O. 168A, c/o Postmaster, New York, N. Y., ALR.
Stelle, Harry L., 207 Commerce Bldg., Pittsburg, Kans., OALR.

Stolzar, Irwin H., Capt. (MC), Regional Hospital, Fort Knox, Ky., OP.
Surber, John Roger, 119 E. 74th St., New York 21, N. Y., ALR.
Swenson, Rudolph E., 1 Carver St., Plymouth, Mass., ALR.

Tait, Edwin Forbes, 1324 W. Main St., Norristown, Pa., OP.
Teasdale, Laurie Redmond, Capt. (MC), Station Hospital AAB., Romulus, Mich., ALR.
Teixler, Victor Adolph, 224 Hume Mansur Bldg., Indianapolis, Ind., OP.
Thompson, Chase S., Capt. (MC), Regional Hospital SAACC, San Antonio, Texas, ALR.
Thornell, William Clyde, 1002 Carew Tower, Cincinnati, Ohio, ALR.
Tisher, Paul Winslow, 99 W. Main St., New Britain, Conn., OP.
Tobin, Henry Loughlin, 74 Front St., Binghamton, N. Y., OP.
Tulloch, George M., 410-12 McCulloch Bldg., Okmulgee, Okla., ALR.

U'ren, Harold Merle, 624 Medical Arts Bldg., Portland, Oregon, OP.

Viger, Roland Joseph, Lt. Comdr., Fleet Mail Office, Oph. Newf. Command, St. John's, Newfoundland, OP.
Voorhees, Darrell Graham, 135 E. 65th St., New York, N. Y., ALR.

Wall, Walton B., 111 West Adams St., Jacksonville, Fla., OP.
Webb, Walter Whayne, University Hospitals, Iowa City, Iowa, ALR.
Wilcoxen, William B., Lt. Col. (MC), Station Hospital, Fort Snelling 11, Minn., ALR.
Wild, Joseph Peter, 1729 S. 11th St., Milwaukee, Wis., ALR.
Wolff, Jerome Marshall, 822 Park Ave., Plainfield, N. J., OP.
Wood, George Harden, Petroleum Bldg., Big Spring, Texas, ALR.
Wright, R. Wesley, Major (MC), AAF Regional Hospital R.S. No. 4, Santa Ana, Calif., ALR.

Zavalia, Alberto Urrets, 27 de Abril 244, Cordoba, Argentina, OP.

VII

Report of the Executive, Research and Finance Committee—Dr. Gordon B. New, Chairman:

1. The Committee recommended that the application fee remain at $20.00, dues at $10.00 for Junior Fellows and $5.00 for Senior Fellows, and at $5.00 for men in military service as of January 1, 1946.
2. It was recommended that the following Fellows be dropped for nonpayment of dues:

Comdr. Simon Ball, Sampson, N. Y.
Lt. Comdr. Shirley Anthony Fuhring, Philadelphia, Pa.
Lt. Comdr. Norman Livshin, Sampson, N. Y.
Lt. Comdr. Eugene H. Moyle, Newport, R. I.
Morris Rosenbaum, New York, N. Y.

3. The Committee recommended that resignations be accepted from Dr. C. Howard Darrow, Pasadena, Calif., Dr. J. Thomas Dowling, Seattle, Wash., and Dr. George A. Richardson, Ann Arbor, Mich. Resignations received from Dr. John F. Curtin, Minneapolis, Minn., and Dr. William J. Mellinger, Santa Barbara, Calif., were not accepted and their names are to be added to the list of "Dues Remitted."
4.
5. It was recommended that the present list of 13 Fellows whose dues have been remitted previously be continued.
6. A suggestion by Dr. Ralph I. Lloyd that an Emeritus Fellowship classification be set up for Fellows whose dues are remitted was tabled.
7. It was recommended that an Honorary Fellowship be offered Dr. Nelson Miles Black and that Dr. Lawrence T. Post be given the power to act in this matter.
8. Nominations to Standing and Joint Committees:

To the Registry of Ophthalmic Pathology, Dr. Brittain F. Payne, Chairman; Dr. Benjamin Rones; Dr. Jonas S. Friedenwald; Dr. Georgiana Dvorak-Theobald; and Dr. F. H. Verhoeff.

To the Registry of Otolaryngic Pathology, Dr. Frank J. Novak, Chairman; Dr. LeRoy A. Schall; and Dr. Herman Z. Semenov.

To the Committee on the Conservation of Hearing, present committee continued, Dr. Dean M. Lierle, Chairman.

To the Committee on the Pan-American Congress of Otolaryngology, present com-

mittee continued, Dr. Chevalier L. Jackson, Chairman.

To the Committee on the Revision of Pathologic Atlases, present committee continued, Dr. Brittain F. Payne, Chairman.

To the Committee on the Scientific Exhibit, Dr. O. E. Van Alyea, Chairman, and Dr. Georgiana Dvorak-Theobald.

To the Committee on the Standardization of Tonometers, present committee continued, Dr. Jonas S. Friedenwald, Chairman.

To the Advisory Committee to the Eye Health Committee of the American Student Health Association, Dr. Lawrence T. Post.

To the American Association for the Advancement of Science, Dr. Harry S. Gradle; Dr. William L. Benedict, alternate.

To the American Board of Ophthalmology, Dr. Derrick Vail.

To the American Board of Otolaryngology, Dr. Thomas E. Carmody and Dr. Frank R. Spencer.

To the American Committee on Optics and Visual Physiology, Dr. Kenneth C. Swan.

To the American Orthoptic Council, Dr. Murray F. McCaslin.

To the Committee on Industrial Ophthalmology, Dr. Thomas D. Allen, Dr. Edwin B. Dunphy and Dr. John B. Hitz.

9. The Committee recommended that Dr. William L. Benedict be reappointed Editor-in-Chief of the TRANSACTIONS.
10. It was recommended that the next annual meeting be held at the Palmer House in Chicago on October 13-17, 1946.
11. The Committee recommended the following expenditures:

To the Army Medical Museum, $1,500 not to exceed $2,000.

To the Committee on the Conservation of Hearing, a sum not to exceed $3,000.

To the Committee on the Standardization of Tonometers, a sum not to exceed $2,000. It was suggested that announcements of the location of the tonometer testing stations be inserted in the **Archives** and the **Journal.**

To the American Committee on Optics and Visual Physiology, $100.00.

To the American Orthoptic Council, $200.00.

12. The Committee recommended that the present office salaries be continued.

Dr. Edmund B. Spaeth moved that the report of the Executive, Research and Finance Committee be accepted as read. Dr. Dean M. Lierle seconded, and the motion was carried unanimously.

VIII

New Business:

1. Motion made by Dr. Carl H. McCaskey that the Academy be authorized to solicit funds to establish a nation-wide hearing program headed by an executive to be hired by the Committee on Conservation of Hearing jointly with the American Society for the Hard of Hearing. Seconded by Dr. James Milton Robb and carried. Dr. McCaskey was requested to submit to the Executive Secretary-Treasurer a resolution regarding the mechanics of the proposed program.
2. Dr. Brittain F. Payne, for the Committee on the Revision of Pathologic Atlases, stated that inasmuch as it will be a year before the new atlases become available, the present edition should be reprinted to cover present needs. The motion was made by Dr. Alan C. Woods and seconded by Dr. James Milton Robb that 250 ophthalmic and 250 otolaryngic atlases be reprinted. Carried.

   Moved by Dr. James Milton Robb and seconded by Dr. Edmund B. Spaeth that Col. Brittain F. Payne be reimbursed for his travel expenses in connection with the work of the Committee on the Revision of Pathologic Atlases. Carried.
3. Dr. William L. Benedict suggested that the Boards be permitted to use the TRANSACTIONS as official organs, with the understanding, interposed by Dr. Alan C. Woods, that the Academy cannot give a blanket endorsement to the Boards.
4. Motion made by Dr. Edmund B. Spaeth and seconded by Dr. Ralph I. Lloyd that Dr. William L. Benedict be authorized to employ an office manager to relieve him of the heavy details in the management of the Academy. Carried.
5. The Council requested that a letter of appreciation be sent to Dr. Hal Foster in his role of founder of the Academy.

COMMITTEE REPORTS

Standing Committees

REPORT OF THE COMMITTEE ON OPHTHALMIC PATHOLOGY

Registry of Ophthalmic Pathology

Table I

Year	No. of Accessions
1922-1934	4,847
1935	415
1936	570
1937	863
1938	972
1939	1,167
1940	1,441
1941	1,353
1942	1,488
1943	1,682
1944	3,029
Total	17,827

The number of accessions almost doubled during the year, the peak being reached in April, 1945 when 452 cases were added to the Registry.

An exhibit on Traumatic Injuries of the Eye in Soldiers was shown at the Academy Meeting in October, 1944 and received first award for excellence of presentation. The same exhibit was presented before the Section on Ophthalmology of the New York Academy of Medicine in February, 1945. A paper on the subject was read at this meeting.

Again the Registry participated in the Postgraduate Course in Ophthalmology given by George Washington University. This was the eighth year for the activity.

The loan sets have been in constant use, being particularly in demand just before the Board examinations. Work on the revision of the Atlas is progressing.

HARRY S. GRADLE, M.D., Chairman
Advisory Committee,
Registry of Ophthalmic Pathology

J. E. ASH, COLONEL, M.C., U.S.A.
Director, Army Institute of Pathology
Registrar

REPORT OF THE COMMITTEE ON OTOLARYNGIC PATHOLOGY

Registry of Otolaryngic Pathology

Since July 1, 1944, 340 cases have been added to the Registry compared to 284 the previous year. The total number of accessions is now 2,678.

Approximately 175 temporal bones removed from Air Force personnel killed in flight are being embedded. Some 40 additional ones have been received and it is hoped that the cutting of these will get under way in another month or so. The technical facilities of this Institute have been very heavily strained for the past year especially, and the cessation of hostilities has not lessened our work.

Some progress has been made on the revision of the Otolaryngic Atlas but it will be several months before intensive work can be applied to it.

An exhibit on Tumors of the Ear, Nose and Throat was presented at the Academy meeting in October 1944.

The material in the Registry has been the basis for a chapter on the pathology of the ear, nose and throat for a volume on pathology that is being edited by Dr. W. A. D. Anderson of the University of Iowa.

FRANK J. NOVAK, JR., M.D.
Chairman, Advisory Committee,
Registry of Otolaryngic Pathology

J. E. ASH
Colonel, M.C., U.S.A.
Registrar

REPORT OF THE COMMITTEE FOR THE REVISION OF PATHOLOGIC ATLASES

Progress on the revision of pathologic atlases for ophthalmology and otolaryngology has been hindered by the increased load of work placed on the Army Medical Museum by the war. The size of the staff has not been changed and the pathologic material has increased to such an extent that it will require years for its examination and classification. In spite of these obstacles, considerable prog-

ress has been made in the selection of new material for both atlases. Numerous photographs have been made to replace and add to the ones previously used. Col. J. E. Ash, curator, Mrs. Helinor C. Wilder and Capt. Joyce Morris, of the Museum staff, were aided by Major Herman Z. Semenov in the selection of material for otolaryngology and the undersigned assisted for ophthalmology. Several interviews were held with members of the committee in Boston, New York, Baltimore, Chicago and Philadelphia. The suggestions made by the committee members have been incorporated in the plans for the new atlases.

Since it is impossible to publish the new atlases at this time, it is suggested that 500 or 1000 copies of the last editions be printed to supply present demands. Col. Ash and his staff will give this project first priority and the books should be available within a reasonably short time. A letter from Col. Ash is appended to this report.

"I can report some progress in the revision of the E.N.T. Atlas. I have gone over all the material that Semenov gathered together, and with Captain Morris' aid am making selections. It is pretty slow, of course, under the present circumstances because the cessation of hostilities has increased rather than decreased our work. We have not as yet received all the material from the inactivated hospitals in the European and Italian Theaters. We also are having some changes in our personnel which slows things up a bit.

The Eye Atlas is in status quo. Mrs. Wilder and Ben Rones are busy working up the traumatic eye studies that will be included in our volume on Pathology of the Medical History of the War. This latter, by the way, has become disconcerting by imminent cessation of hostilities. The revision of the Eye Atlas, however, will not be the job that the other one will be.

Please do not be too discouraged but we are in a particularly turbulent state here and will be for several months, during which time it will not be possible for us to concentrate as we should like on the Atlases."

BRITTAIN F. PAYNE, M.D., Chairman

REPORT OF THE COMMITTEE ON STANDARDIZATION OF TONOMETERS

I. Tonometer Testing Stations.

Two Testing Stations have been in operation under the direction of our Committee during the past year. A third station which it was planned to establish in California has not been found necessary. The New York station, which had been conducted by the National Association for the Prevention of Blindness under the supervision first of Dr. Posner, and, after he went into the military service, under Dr. Schoenberg, has been operating under great handicaps since Dr. Schoenberg's illness and was discontinued after his death. It is planned to reopen this station under Dr. Posner's direction on October 1st. The function of these stations is to test tonometers that are out in practice, to arrange for mechanical repairs when necessary, to furnish the owner with correction factors to be used with his instrument if it is found to differ from a standard instrument in ways for which corrections can be computed. Correction factors for a wide variety of commonly found errors of construction in the Schiotz tonometer have been worked out by Dr. Kronfeld who is making a similar study of correction factors for the Gradle instrument. During the year July 1944 to July 1945 a total of 195 tonometers were examined by the testing stations, and all but six were returned to their owners in satisfactory working order after appropriate repairs, readjustments and recalibrations.

A similar testing station was set up by the Armed Services during this year, has worked in close cooperation with us, has adopted our methods of recalibration, and has advised with us on many matters.

II. Certification of New Tonometers.

Our Committee was authorized by the Academy, the American Ophthalmological Society and the Section of Ophthalmology of the American Medical Association to arrange for the certification of tonometers which may be submitted by the manufacturers for examination, and which are found to conform to appropriate specifications.

Specifications for Schiotz tonometers and methods of testing the instruments were worked out by the Committee in cooperation with the Electrical Testing

Laboratories, Inc. These specifications were submitted to all American manufacturers known to be engaged in making these tonometers and, after acceptance by them, were adopted by our Committee and given to the Electrical Testing Laboratories, Inc. with the understanding that instruments which conformed to these standards could be certified by that Company under our authorization. Relatively few instruments have in fact been submitted during the past year due primarily to war time difficulties in manufacture, but several manufacturers who are entering this field have submitted preliminary models and have been advised by our Committee as to the nature of the defects found. There is reason to believe that the present shortage of acceptable Schiotz tonometers will soon be relieved.

Similar work has been done in respect to the Gradle tonometer. Specifications were worked out jointly by our Committee, the manufacturer, and the Electrical Testing Laboratories, Inc., and have been approved by Dr. Gradle, and as soon as manufacturing difficulties have been surmounted, it is expected that certified instruments of this type will be on the market.

III. Direct Calibration of Standard Tonometers.

The original calibration of the Schiotz tonometer by its inventor entailed, it is now clear, some systematic errors. The independent work of McLean resulted in widely discrepant estimates as to the significance in millimeters of mercury of given tonometer readings. Our Committee was authorized to undertake an experimental review of these calibrations. This work is financed by the Academy. Laboratory space was provided by the Wilmer Institute and the work is being conducted by Dr. Friedenwald. We now have a reference standard Schiotz, Gradle, and McLean tonometer, each conforming as nearly as possible to the accepted specifications for its type, and calibration studies are progressing.

JONAS S. FRIEDENWALD, M.D.
Chairman

REPORT ON TONOMETER CALIBRATION STUDIES

This work was undertaken under an appropriation of $3,500.00 from the Academy. Laboratory space was made available by the Wilmer Institute, and work was begun in July 1944. Approximately one-half of the appropriation has been expended, chiefly for technician's salary. An apparatus has been constructed and standard technics worked out for the calibration of standard samples of the Schiotz, Gradle, and McLean tonometers. The work is progressing and data are steadily accumulating, but the analysis of these data and report of the conclusions reached would be premature at the present time.

J. S. FRIEDENWALD, M.D.

REPORT OF THE COMMITTEE ON THE STUDY OF IMMEDIATE POSTWAR EDUCATION OF OTOLARYNGOLOGISTS DISCHARGED FROM SERVICE

It was the consensus that the Academy should not interfere in the functions of teaching institutions, with the exception of the Home Study Course, and that its activities should be limited to the annual meeting. It was the opinion also that due to the slow process of demobilization it would be impossible to organize satisfactory courses of study. Another suggestion was that the Academy should devote a full week to the instructional program.

DEAN M. LIERLE, M.D.
Chairman

Joint Committees

REPORT OF THE ADVISORY COMMITTEE TO THE EYE HEALTH COMMITTEE OF THE AMERICAN STUDENT HEALTH ASSOCIATION

LAWRENCE T. POST, M.D.
Representative

In 1936 Dr. Annette Phelan of the National Society for the Prevention of Blindness came to me and presented evidence showing that the American Student Health Association was neglecting a major health problem, namely, vision conservation of college students.

At the following annual meeting of the Association we appointed an Eye Health Committee and secured the active services and cooperation of three eminent ophthalmologists as consultants in our committee: Dr. Benedict, Mayo Clinic; Dr. Gradle, Chicago; and Dr. Hardy, New York City.

This Committee had many meetings in which we discussed all problems of vision

conservation and presented numerous reports and recommendations to the Association, and these were published in our Association transactions and in several medical journals. The Committee studied the psychology of vision, engineering problems of lighting, education, treatment of vision breakdown, and other pertinent details. New methods of vision examination were stressed, a new illuminated chart holder was devised and was used by considerable number of institutions. A teacher's training program was instituted in this field and scholarship aid for these courses was secured through the National Society for the Prevention of Blindness. Illumination of study surfaces was improved in many colleges and universities.

Since the beginning of the war, because of reduced Health Service personnel, the Committee has made very little progress. However, it seems to me that at the present time there is a strategic opportunity to revive this program, chiefly, because we have available now the improvements in this field that have been the result of the experience of the armed forces.

Their contributions should be studied and applied where appropriate to our college populations.

Numerous recommendations have come to me recently which seem to be valid and should be carefully considered in improving our Association program of vision conservation for college students.

R. W. BRADSHAW, M.D.
May 2, 1945

REPORT OF THE AMERICAN BOARD OF OPHTHALMOLOGY

Eighty-five examinations to date. Total certificates issued to July 1, 1945 = 2405. The Board decided not to reduce the minimum time requirements in the specialty, viz: thirty-six months in ophthalmology and sixty months in otolaryngology combined with ophthalmology. The Board also decided to hold no regional exams in army camps and foreign countries.

Examinations 1944-45

New York City, June 2, 3, 5—Passed, 61; failed, 26; conditioned, 12.

Chicago, October 5, 6, 7—Passed, 30; failed, 15; conditioned, 10.

New York City, June 12, 13, 14, 15, 16th—Passed, 24; failed, 26; conditioned, 25.

Examinations 1946

Los Angeles, January
Chicago, October
New York City, June

The Advisory Board has decided to publish a Directory of all diplomates of the various Boards as of Jan. 1945. This volume will contain a biographical, geographical and alphabetical list of the diplomates of each of the Boards. Marquis & Co., who publish "Who's Who in America," have arranged for a wider distribution of the volume which should be off the press about June 1st, probably at a lower price than previously.

Effective January 1st, 1944, the total fee for candidates is $75.00.

Forty-two Ophthalmologists have served on the Board since its organization in 1917.

The officers for 1945 are: Chairman, Daniel B. Kirby, New York City; Vice-Chairman, Everett L. Goar, Houston; Secretary-Treasurer, S. Judd Beach, Portland, Maine; Assistant Secretary, Theodore L. Terry, Boston.

1945 Personnel of the Board:

Term Ends	A.O.S.
December 31, 1945	G. D. Theobald
December 31, 1946	E. C. Ellett
December 31, 1947	M. H. Post
December 31, 1948	E. L. Goar

Section of Ophth.	Academy
Daniel B. Kirby	C. S. O'Brien
Conrad Berens	A. B. Reese
Theodore L. Terry	F. C. Cordes
S. Judd Beach	R. J. Masters

REPORT OF THE AMERICAN BOARD OF OTOLARYNGOLOGY

The American Board of Otolaryngology had but one meeting this year—June 5th to 8th, inclusive—and a great many matters came before the Board for action which consumed considerable time.

Fifty-five candidates were examined of which 37 passed, 12 were conditioned, and 6 failed.

The meeting for October had to be postponed on account of war conditions.

THOMAS E. CARMODY, M.D.

REPORT OF THE AMERICAN COMMITTEE ON OPTICS AND VISUAL PHYSIOLOGY

A sum of $5,000 was granted to the Committee for research concerning the possibility of improving visual acuity in

myopia. The research has been delayed because of the difficulty of obtaining equipment as well as personnel. However, other studies have been considered in relation to the proposed research and progress has been made in compiling a data sheet.

"Changes in Ophthalmic Requirements of the Military Services" for the year 1944 was published in the Archives of Ophthalmology, April, 1945.

The Army consulted the committee concerning the use of iseikonic lenses by members of the armed services. The result was that the Army continues its policy of approving the use of iseikonic lenses only in especially selected cases.

The Army Service Forces consulted the Committee concerning examination for visual acuity, the use of a cycloplegic test and the type of chart or projectoscope to be incorporated in the visual examination of the Army Service Forces. The committee made the following recommendations: A test chart is preferred by a majority of the committee and a broken ring was recommended as a test object. While seven members of the committee were in favor of using artificial daylight illumination (Macbeth), five members preferred Mazda illumination. For illumination of the surrounding field good illumination approximately equal to that on the chart was suggested. For illuminating the chart an average of about 30 foot candles was decided upon. Opinions concerning the method of obtaining illumination varied. However, the majority preferred that the brightness of the surrounding field should approximately equal that of the chart. Concerning the cycloplegic, homatropine (5 per cent), instilled twice at a five minute interval was recommended by one member. The majority preferred homatropine (3 per cent) and cocaine (1 per cent) instilled every five minutes for four doses.

The committee has been cooperating with the Illuminating Engineering Society concerning proper standards for lighting schoolrooms.

Dr. Charles A. Bahn
Dr. Avery de H. Prangen
Dr. Alfred Cowan
Dr. Walter B. Lancaster
Dr. Lawrence T. Post
Dr. Thomas D. Allen
Dr. Conrad Berens
Dr. S. Judd Beach
Dr. Frederick C. Cordes

REPORT OF THE AMERICAN ORTHOPTIC COUNCIL

The American Orthoptic Council held its eleventh meeting in Chicago at the Palmer House October 7, 1944. Thirteen of the sixteen members were present. The President, Dr. LeGrand H. Hardy, and Vice-President Dr. Beulah Cushman acted as representatives from the American Ophthalmological Society.

Three applicants had taken the examination for orthoptic technicians and passed the written and the practical examinations. This brought the number of certified orthoptic technicians to 72 of whom 59 were members of the American Association of Orthoptic Technicians.

Discussion of the need of more teaching centers for the training of technicians was taken up, and encouragement was extended to the centers in Milwaukee, Rochester, N. Y., St. Louis under Dr. Lawrence Post, and Buffalo, N. Y. Dr. Costenbader reported on the course being planned at George Washington University on the University level, which would give forty hours work a week for six months followed by a year's experience in the office of a competent ophthalmologist before the diploma is given.

It was voted to have a committee to review the publications of articles written by technicians in nonmedical periodicals. The committee appointed were Drs. Lancaster, Gradle and Prangen.

A motion was carried that doctors who sponsor applicants for training be sent: 1. The council's syllabus; 2. Five sets of suggested examination questions as have been used in the past several years; 3. A copy of Dr. Lancaster's paper given before the joint session in 1943.

The acceptability of orthoptists who hold optometry or opticians' degrees and licenses as applicants for orthoptic technicians was tabled as the ruling of the American Medical Association would forbid such procedures at this time.

Prizes were awarded to technician members of the American Association of Orthoptic Technicians for slides entered in the second annual contest. This contest will be continued during 1945.

The new instrument called **troposcope** was reported on favorably as a modification of the synoptophore.

Motion was made and carried that the present officers retain their offices for another year.

At the request of the members of the Council, Dr. Lancaster was asked to present the scope of orthoptics in an article to be presented to the Journal of the American Medical Association.

Several members of the Council have been requested to prepare a one hour instruction course for a six period continuous course in orthoptics at the Academy meeting in the fall of 1945, the subjects and speakers to be:

Evaluation of Orthoptics
Dr. LeGrand Hardy
Clinical Orthoptics
Dr. Truman L. Boyes
Fusion
Dr. Ernest Sheppard
Orthoptic Examination of Children
Dr. Frank Costenbader
Adult Problems in Orthoptics
Dr. Beulah Cushman
Orthoptics in Neuro-opthalmology
Dr. George Guibor

A symposium, one of the education activities of the Council, has been prepared for the fall meeting of the Council in 1945.

Examinations for technicians have been scheduled for September and October 1945.

Murray F. McCaslin, M.D.
Avery D. Prangen, M.D.
John B. Hitz, M.D.

REPORT OF THE JOINT COMMITTEE ON INDUSTRIAL OPHTHALMOLOGY

In general the program of activities of the Committee on Industrial Ophthalmology has been directed along three principal lines (1) Research (2) Educational and (3) Service.

1. **Research** has demonstrated the degree of visual defects existing in many types of industrial plants. All methods of screening these defects and methods for presenting the data to management have been investigated. This phase of our program nears completion.

2. **Education:** Much of the data obtained and experience gained has been presented (a) in many published papers, (b) in cooperation with the instituting of seminars, and (c) in giving instruction courses and lectures. This phase of the program is a continuing one.

3. **Service:** Comprehensive visual programs have been established in many plants, and the results of such programs on efficiency of production have been checked.

The results of actual plant experience with various established visual programs are now being gathered and will be presented through the TRANSACTIONS of the Academy and other publications.

The most practical kind of service for various types and sizes of plant has not been fully determined—an unsolved problem. Many miscellaneous problems have been presented and recommendations submitted, among which are:

Practice of office and factory lighting.
Special prescription lenses for special jobs.
The place of the veteran in industry.
Screening tests and technics.
The number of ophthalmologists available for industrial practice.
Distribution of optical goods for industrial purposes.
Function of the nurse in industry
Nursing procedures for eye emergencies.
First aid instructions.
Suggested samples of standing written orders for medical staff.
Welding fumes.
Adequate protection for welders.

It is recommended that this Committee be continued.

ALBERT C. SNELL, M.D.
Chairman

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Rochester, Minnesota

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American Academy of Ophthalmology and Otolaryngology

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Pan-American Congress of Otolaryngology

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A PRACTICAL APPROACH TO THE SELECTION OF HEARING AIDS

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I

Modern science and industry have developed hearing aids to the stage where they are prosthetic devices of high usefulness. Otolaryngologists are fully aware that many patients with stationary or progressive loss in hearing can obtain significant practical benefit from hearing aids. Furthermore, otolaryngologists rightly believe that procurement of hearing aids should be on medical advice and under medical guidance.

Unfortunately, the present situation makes it difficult for many practicing otolaryngologists to assume responsibility in guiding the selection of hearing aids. It is hard to get full information on the performance of all important makes of instrument. In addition, current knowledge of the basic principle for selection of hearing aids is incomplete. Furthermore, these basic principles rest not only upon medical considerations but also upon considerations of acoustics, electronics and the psycho-physics of audition. Again, the current methodologies of Hearing Aid Clinics and the Aural Rehabilitation Centers are sufficiently time-consuming to be unfeasible for the practicing physician to use. Lastly, a wide variety of local circumstances impose limiting conditions with which compromise must often be made. The end result is that some otolaryngologists find themselves in a dilemma. They wish to employ their medical prerogative in relation to hearing aids, yet the current situation imposes serious obstacles to doing so with the definitiveness which the competent physician demands of himself.

There is need for a solution to this dilemma which will be at the workable level. This solution must give the practicing otolaryngologist a feasible plan for action. It must open the way for him to advise on hearing aids with real assurance.

Recognizing that methodologies for hearing aid selection are in flux, the solution need not be the long term ideal. It is justifiable if it allows the otolaryngologist to *protect his patients by insuring that they get instruments which give adequate help and are not dangerous.*

Several procedures are possible by which the otolaryngologist can guide his patients rather precisely, easily and quickly to find instruments which meet the foregoing requirement.

A plan for doing so is presented in this paper. This plan outlines one way in which the physician can assert constructive leadership in the selection of hearing aids. It is a plan which can be set in operation either by a single otolaryngologist or, cooperatively, by several men. While the plan recognizes contemporary limitations, it leaves the way open for modification as circumstances and new developments in the field warrant. It does not call for the extensive procedures of Hearing Aid Clinics and Aural Rehabilitation Centers. However, it is an adaptation to the problems of the practicing otolaryngologist of experience at one Aural Rehabilitation Center.

The plan discussed below is applicable to most adult patients and to some children. Stated differently, the plan is feasible with persons who have had either

normal or near-normal hearing sufficiently long during childhood so that their educational and social development has not been seriously warped by deficiency in audition. Those persons suffering losses at birth or early in life constitute a problem which is outside the scope of this paper. Such persons demand a special approach which takes cognizance of their language and perceptual limitations. It is doubtful whether adequate hearing aid selections can be made for these cases until after they have undergone extended auditory training. Many children with auditory handicaps fall into this category. Aside from application of whatever medical procedures are indicated, such cases need referral to appropriate educational facilities and special centers.

II

Throughout this paper the emphasis is upon protecting the adult patient by assuring that he obtains an instrument which gives him adequate help. Obviously, the definition of what constitutes adequate help is variable. It depends upon limitations imposed by the patient's hearing loss, by the total medical picture and by the patient's pattern of life. Nevertheless, one may specify eight criteria which ordinarily must be met if the hearing aid is to be considered adequate. Except in special cases, these criteria delimit the standard of acceptability for a hearing aid. They are:

1. The hearing aid shall have adequate sensitivity. It shall give adequate gain.
2. The hearing aid shall have an adequate "ceiling." It shall be tolerable in relatively strong sound environments.
3. The hearing aid shall perform with good efficiency in the presence of background noise.
4. The hearing aid shall yield adequate sound discrimination. It shall allow recognition of small sound differences.
5. The hearing aid shall not produce special problems for the patient.
6. There must be emotional acceptance by the patient that the instrument selected is satisfactory.
7. The instrument shall be of reputable manufacture, thus giving reasonable assurance of substantial construction and good electro-acoustic performance.
8. Local company facilities and representation shall be sufficiently good to insure continuous service and efficient repair.

The first four criteria involve performance which can be measured by laboratory technics. However, to do so in a definitive manner calls for extended equipment and ample time. Fortunately, there are also approximate methods which can be instituted and maintained by any otolaryngologist who so desires. The equipment necessary is easily procurable and simple. The work involved can be done by a lay assistant after a short training period. Nevertheless, these approximate procedures make some demands upon both the physician and the patient. Both must be willing to comply if the patient is to have medical guidance. The alternative is for the patient to face the blandishments of commercial salesmanship as he tries to satisfy his needs through trial and error.

The method for hearing aid selection described in this paper is not a laboratory procedure. Rather, it is a culling process in which practical decision and controlled experience with hearing aids are employed to keep the patient from making unfortunate mistakes. *The method is best thought of as a series of three screening stages whereby instruments which are unpromising and undesirable are eliminated.* When properly conducted, these screening stages will

isolate the instrument (or instruments) which give adequate performance for the patient. The physician can have confidence, except in unusual cases with special problems and needs, that the eight criteria mentioned above have been met.

III

The three screening stages which constitute the method may now be discussed in detail.

A. *The Stage One Screen* is the preliminary elimination of instruments which are not to be given serious consideration.

There are a multitude of makes and models of hearing aids being manufactured. Over forty different concerns produce instruments. Some are substantial companies with reliable products. Others are of unsavory repute. Still others are small "fly-by-night" organizations. Therefore, the first task is obviously to select from the multitude of available instruments a limited group of superior makes and models which will be given serious consideration.

An initial reduction is easily made by eliminating the products of all *concerns* whose instruments are not approved by the Council on Physical Medicine of the American Medical Association. The reason for this elimination is obvious. However, what has just been said does not mean that all *models* given consideration must be approved by the Council on Physical Medicine. In general, such approval should be demanded of the individual model. However, there is one condition where exceptions are justified at the discretion of the otolaryngologist. This condition arises when a company with a record of consistently having its instruments accepted releases a new model which *supplants* an approved model. When such a situation occurs it usually takes several months for the new model to be completely processed by the Council and given published approval. If, under such circumstances, the otolaryngologist waits until published acceptance appears he may find himself in the position of depriving his patients for several months of an improved hearing aid. The physician must therefore weigh the probability that the new model is at least the equivalent in performance and construction to the model being superceded against the possibility that Council acceptance may be withheld. No final rule can be laid down other than the obvious one of weighing factors and then making the decision which seems in the best interest of the patient.

The list of instruments approved by the Council on Physical Medicine constitutes a large armamentarium. In fact, even after disregarding obsolete models, the list is so large that it is impractical for the otolaryngologist to employ all the instruments it includes. A second reduction is necessary to give a workable number of instruments.

Two methods may be used for achieving this reduction. Local factors are one criterion. When a particular company has no local representation, there is little point in employing its models. Patients would face sufficient difficulty with service and repairs to make it unwise for the otolaryngologist to recommend instruments from this company. Similar difficulties may be expected where the local representation is of poor caliber. Thus, even among the Council-accepted makes, instruments should be given serious consideration only where local company representation is adequate. In many communities this practical criterion will reduce to feasible size the number of aids from which selection will be made. If such is not the case, a second consideration may be helpful. Specifically, the degree of cooperation which the otolaryngologist receives from local representatives often varies sharply. When this occurs, the otolaryngologist is often justified in

eliminating from his list those instruments whose representatives are apathetic or antagonistic. Since later stages of the selection program necessitate cooperation from the representative, it is legitimate to eliminate hearing aids where lack of cooperation interferes with efficient function of the program.

As a result of the foregoing screening, the otolaryngologist should have available for use with his patients a list of from four to eight makes of hearing aids. He is then ready to start the actual work with the patient.

B. *The Stage Two Screen* involves elimination of the actual "fittings" which are unsatisfactory for the patient and isolation of the combinations to be given further trial.

The first aspect of the Stage Two Screen is a thorough study of the patient's case and an assessment of his needs. Obviously, this study begins with the medical examination. Otological findings and audiometric results (including both air and bone conduction measures) are particularly important since they form the basis for preliminary decisions which will set the pattern for subsequent action.

The initial decision is whether or not the patient should be advised to procure a hearing aid. Obviously there must be no physical condition which would make a hearing aid dangerous or intolerable. Secondly, except under special circumstances, the otolaryngologist will not wish to recommend an instrument unless the impairment in hearing is permanent and is not judged remediable by treatment or surgery. Finally, even when there is medical justification for a hearing aid, the patient must have sufficient loss to assure practical benefit from an aid. In other words, the hearing loss must constitute a definite economic or social disadvantage. Since patients vary in their habits and activities, one cannot specify the particular degree of loss beyond which a hearing aid is indicated. In general, however, the patient will not need an instrument unless the loss by air in the better ear averages at least 35 decibels from 512 through 2048 c.p.s.

A second decision involves choice of the ear on which the instrument is to be worn. Again, individual factors are the determinants. When the two ears are approximately equal, the decision must rest on a weighing of prognostic, audiometric and practical factors. These factors also apply when there is discrepancy between the two ears. However, recognizing that there are exceptions, the following rough rules are helpful. The poorer ear is preferred when the better ear shows moderate loss, provided the loss in the poorer ear is not so great or the audiometric curve is not of such shape that unsatisfactory results may be expected. In contrast, with cases of heavy loss it is usually preferable to fit the better ear.

The third decision is whether the air or the bone conduction receiver is to be specified. The current trend is toward the use of air conduction receivers except in cases (1) where an external or middle ear condition militates against doing so, (2) where the audiogram shows high sensitivity to bone conduction stimuli and where there is some reason for avoiding an air conduction receiver, and (3) where special problems emerge in the use of an air conduction receiver. Naturally, when the audiogram reveals poor or highly irregular bone conduction curves, air conduction "fittings" are preferable.

Whenever the air conduction receiver is recommended, it is imperative that the patient procure an individual plastic earpiece before trying hearing aids. Stock earpieces fail to fit many ears adequately. Furthermore, the ultimate performance of a hearing aid is dependent in part upon the particular earpiece with which it is used. Performance varies

with the snugness of the fit in the ear, the seal between receiver and earpiece, and the physical dimensions of the channel for sound. It is therefore essential that the earpiece which eventually will be worn with an instrument be used in the selection process. Hence, if the patient does not have an individual earpiece, he must be required to procure one. The otolaryngologist may wish to make the impression from which the earpiece is modeled, or he may prefer to recommend an agency where the impression can be made.

Once the foregoing decisions have been reached and the patient has his own earpiece, one is in a position to specify in detail the hearing aids to be tried by the patient. The otolaryngologist may wish to delegate this task to a qualified assistant. In any case, there are two aspects to the procedure. The first aspect is selection of the "theoretically" superior fittings for the patient. Here it is logical to follow with each make of instrument the system for selection recommended by the manufacturer. Most manufacturers have "fitting" systems based on the pure tone audiogram. In other words, they designate the specific model to be used with a particular degree and pattern of pure tone loss. It is therefore simple, by referring to the patient's audiogram, to choose the model which the manufacturer would designate under the conditions. One thus takes advantage of the experience which the manufacturer has had with his own models. When one has carried out this procedure for each make of instrument under consideration, one emerges with a list of specific fittings (definite models with appropriate receivers and batteries) which should be promising for the patient.

Moving now to the second aspect, experience has shown that fittings chosen in the above manner are not always superior. One must therefore check these fittings by actual trial. The simplest procedure is to assemble both the combinations already chosen and selected alternative combinations. The patient then wears the various combinations, and the person guiding him estimates their relative adequacy. Either direct conversation or phonograph material may be used as the stimulus during this check. In both instances, performance should be estimated in terms of sensitivity for faint speech, ability to tolerate relatively intense sound, and sharpness of discrimination for speech sounds. Within each make of instrument, the combination should be chosen for which performance is superior. Very often this will be the "theoretical" fitting, but at times it will be one of the alternatives.

As a result of the foregoing decisions and selection, a few specific fittings are isolated. These are the hearing aid combinations with good promise. These are the instruments which will be used in the final stage of selection.

C. *The Stage Three Screen* is a final comparison through use of the four to eight combinations which survive stage two.

There are two phases to the comparison through use. For a given hearing aid combination, these two phases may be concurrent. However, it is simplest to discuss each phase separately.

One phase is to have the patient actually use each instrument in everyday situations, preferably for at least twenty-four hours. Such a plan calls for making arrangements with the local company representatives. These representatives may wish either to loan to the otolaryngologist the instruments for this purpose or to supply patients directly with the combinations specified by the physician.

Before the patient wears the various hearing aids in everyday situations, he must be carefully instructed in the purposes of doing so. One must insure that

the patient understands the goals being served, thus avoiding desultory or unproductive trial.

One great advantage of this step is that the patient becomes accustomed to the instrument and its manipulation. Furthermore, after he has used several instruments, the patient develops an understanding of the level in performance he may expect from hearing aids. Many patients will not get perfect results with any hearing aid available today. When such a patient is given insight into performance with several instruments, he avoids blaming the instrument of final choice for deficiencies he would experience with *any* instrument. The result is a more satisfied and, consequently, a more effective hearing aid user.

The second advantage in using hearing aids in everyday situations is that judgments can be obtained on each instrument's practical effectiveness for the patient. To this end, the patient must be guided to see that each instrument gets an exacting trial. Among other things the hearing aid must be worn in situations which are acoustically difficult. It should be tried in (1) a movie or lecture; (2) a conference or some other group scattered in a large room; and (3) noisy surroundings such as restaurants, street cars, industrial plants and an automobile. If the patient must rely upon a hearing aid for telephone conversations, the efficiency on this point should be checked by actual trial.

It is wise to have the patient keep a diary of his experiences with each instrument. He should make a point of recording in detail the problems and unsatisfactory experiences he encounters. Specific notes should also be made on particularly successful experiences. This diary constitutes an important factor in the final selection and must therefore be meticulous.

The second major phase of the Stage Three Screen is a "Listening Hour" trial.[1] Briefly, Listening Hour consists of controlled presentation, at everyday intensities, of typical environmental sounds. The patient rates the hearing aids in terms of the efficiency with which they bring him each of these sound samples. To facilitate comparison, a score on total performance for each instrument is computed.

Listening Hour can be conducted by an assistant in any medium sized room which is moderately quiet. The only equipment needed is a good phonograph (with a volume control) connected to a high-fidelity loud speaker through an appropriate amplifier. This equipment is used to present short samples from selected phonograph records. Each sample is played at medium intensity. The patient is allowed to adjust the controls on the hearing aid so that reception is most to his satisfaction. He then judges the instrument's efficiency in bringing in the sample. About a minute and a half per sample is necessary to allow these operations. The procedure is then repeated with the next sample. The total Listening Hour can be run in about twenty minutes. Since the method can be carried on with groups of patients, the time per patient is relatively small.

The materials presented during Listening Hour should explore the variety of sounds encountered in everyday life. The following is a suggested list which meets this requirement with a small number of items.

1. Recorded samples — presented by phonograph:
   a. Orchestral selection, such as "The Blue Danube," to explore reception of pitch and intensity ranges in music;

1. The Listening Hour technic was developed by Miss Laila Larsen. It has proved an effective clinical method for quickly comparing hearing aids in terms of reception for a wide sampling of sounds. Therefore, a modification of the Listening Hour procedure is being suggested here.

b. Familiar song, preferably sung by soprano, to explore ability to follow relatively easy material presented by a relatively difficult voice;

c. Rapid-fire singing, such as selected parts of Gilbert and Sullivan, to explore clarity of reception for relatively unfamiliar material;

d. Dramatic reading to explore reception for electrically reproduced speech;

e. Sharp noises, such as commercial recordings of tractor, planing mill, or automobile horn, to explore tolerance for loud sounds while wearing the instrument. (This sample should be presented at high intensity.)

2. Live-voice samples of speech:

a. Reading of descriptive material in quiet surroundings to explore reception for face-to-face speech;

b. Reading of descriptive material in a background of recorded music or noise to explore reception of speech under distracting conditions.

3. Discrimination test to explore reception of fine differences in speech sounds.[2]

The patient should go through a complete Listening Hour with each hearing aid that has been retained for final trial. In addition, it is helpful to have the patient run through the series without a hearing aid. This last gives a base for judging the general benefit the patient gets from hearing aids.

Total Performance Scores can be computed for each instrument and for the trial without an instrument. The procedure is simple. The patient is asked to rate the reception for each sample (except the discrimination test) as excellent, very good, good, fair or poor. These ratings are later transformed into numerical values from 5 to 1, respectively. The items are then totalled, with the scores for sharp noises and reading in noise given double value. The Total Performance Score is next obtained by adding in a weighed score for the discrimination test. This weighed score should be one-fifth of the percentage of correct discriminations obtained on the test.

Experience has shown that hearing aids which are less satisfactory may be expected to have poorer Total Performance Scores. Instruments with scores that are clearly inferior may therefore be eliminated. Occasionally, one instrument will be so superior on Total Performance Score that it may be selected immediately as the final choice. More often, however, the Performance Scores on two or three instruments will be so close to one another that final choice should also consider supplementary factors. In other words, when several instruments have good Total Performance Scores each may be expected to give good assistance in everyday life and supplementary factors may be given greater weight without injustice to the patient.

Before considering these supplementary factors, a final word is in order about interpretation of Total Performance Scores. One must realize that the Listening Hour procedure gives only relative scores. That is, one cannot justifiably compare scores obtained for one patient with those for another patient. The two may not have used the same standard of reference in rating the sound samples. However, intra-comparisons of scores made by a single patient are legitimate. It is in this sense that experience has shown the procedure to separate promising from unpromising

2. This test may be presented either by live-voice or by phonograph records. The most satisfactory test is a set of phonetically balanced word lists recently developed by a group at Harvard University. It is hoped that this test will soon be released for general use.

instruments. It is in this sense that selection through Listening Hour is here suggested.

As already mentioned, the final selection of a hearing aid must usually be based upon both Listening Hour scores and supplementary factors. One may outline three steps in this final selection.

1. Instruments with inferior Total Performance Scores are eliminated.
2. Experiences while trying the instruments outside Listening Hour are discussed with the patient to ascertain whether any instrument not already eliminated showed special problems. Not all patients will report such problems, but when one does occur it is legitimate reason for discarding the instrument which yielded it. Incidentally, the diary kept by the patient is a valuable aid to memory at this point.
3. If two or more instruments have survived the foregoing elimination process, the ultimate selection should be on the basis of auxiliary factors. Roughly in order of decreasing importance these factors are: (1) local service and repair differentials favoring one instrument, (2) initial price and anticipated maintenance cost, (3) convenience in manipulation and use, and (4) aesthetic considerations.

Once the final selection has been made, the patient can procure the correct instrument from the local hearing aid representative. However, the otolaryngologist's responsibility does not cease when the referral to the company representative is made. The patient must be instructed to return to the otolaryngologist for a final check to ascertain that a satisfactory instrument actually has been received. A convenient method of making this check is to subject the instrument to the Listening Hour procedure and then compare the score with earlier results.

The patient may expect highest efficiency in using a hearing aid only after he has had auditory training while wearing his own instrument. In other words, re-education of the hearing process is necessary. The otolaryngologist should make this clear to the patient and should be ready to refer the patient to a source where such training is available. This source may be a local specialist in educational problems of the hard of hearing, a teacher in the public schools with training in this line, or the local unit of the American Society for the Hard of Hearing. If none of these sources is available, the otolaryngologist may wish his assistant to learn the technics of auditory training so that she can give it to the patient. Again, if several otolaryngologists are cooperating in maintaining a Hearing Aid Unit, they may procure a technician who is skilled both in selection of hearing aids and in auditory training.

IV

In conclusion, the foregoing discussion presents a method whereby the otolaryngologist can assert constructive leadership in the selection of hearing aids. While the method is not as simple as some would wish, it is as simple as is consistent with the current status of the hearing aid field. It can be instituted by a single physician or by a group of otolaryngologists. The method here outlined recognizes that the science of hearing aid fitting is young. It meets the problem by setting up standards and procedures which are feasible today. Most important, the method safeguards the adult patient in three significant ways. First, it avoids the pressures of salesmanship and gives the patient impartial experience with acceptable instruments. Second, it allows sufficient trial and experience with hearing aids to expose any special problems in hearing aid use which the patient may have.

Finally, the method safeguards the patient by allowing comparison of instruments under both conditions of actual use and under controlled reproduction of these conditions. A process of culling can thus take place in which only the most promising hearing aids are retained for final consideration. The patient will be assured of obtaining a good instrument. In fact, many patients will procure the same hearing aid which would be recommended for them on the basis of the more refined procedures current in good Hearing Aid Clinics. A system which will provide the foregoing results has real merit where the facilities of a Hearing Aid Clinic are not available.

In Memoriam

Robert H. Butler ..... Bellefontaine, Ohio
November 21, 1945

John F. Curtin ..... Minneapolis, Minnesota
December 25, 1945

Spencer S. Howe ..... Bellingham, Washington
November 8, 1945

W. G. Kennon ..... Nashville, Tennessee
January 3, 1946

O. F. Kistler ..... Wilkes-Barre, Pennsylvania
November 27, 1945

John F. Klinedinst ..... York, Pennsylvania
December 6, 1945

Robert Booth Moore ..... Little Rock, Arkansas
August 12, 1945

Max Poser ..... Rochester, New York
January 4, 1946

Owen M. Shreve ..... Erie, Pennsylvania
September 7, 1945

Marshall B. Stewart ..... Dormansville, New York
December 3, 1945

Samuel William Spencer Toms ..... Nyack, New York
August 22, 1945

PAN-AMERICAN CONGRESS
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Inaugural Meeting

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Editorial

Joint Committee on Industrial Ophthalmology

The participation of the Academy in industrial ophthalmology was activated by a paper presented at the 1940 convention by Dr. Hedwig S. Kuhn of Hammond, Indiana, entitled, "An Appraisal of Visual Defects in Industry (based on a study of 16,332 cases)." [TRANSACTIONS, American Academy of Ophthalmology and Otolaryngology 1940, pp. 208-221.] Discussion of this subject revealed that there was need for an organized effort on the part of medical societies to further the visual problems that originated in industry. This paper, together with its discussion, was the first of a series that have appeared with increasing frequency in the TRANSACTIONS as reports of the activities of the Joint Committee.

On October 8, 1940, Dr. Kuhn proposed to the Council of the Academy the appointment of a committee on industrial ophthalmology. Acknowledgment of the suggestion was recorded in the Council minutes for 1940 but "the request was received too late for action and was made a special order of business for the 1941 meeting." On May 23, 1941, Dr. Derrick Vail, Secretary of the Section on Ophthalmology of the American Medical Association, wrote to Dr. Wherry, Secretary of the Academy, as follows:

> "It occurred to me that in view of the importance of this work, particularly right now, it might be a good idea if a joint committee from the three societies was formed to act as a clearing house."

In 1941 the Council approved the proposal of Dr. Kuhn and "recommended that the Academy appoint three members to work with the Committee on Industrial Ophthalmology of the AMA." Those appointed were Dr. John B. Hitz of Milwaukee, Dr. Edwin B. Dunphy of Boston, and Dr. Thomas D. Allen of Chicago. The activities of this committee were jointly assumed by the American Medical Association and by the Academy. Both organizations have given it financial support.

Since its inception Dr. Albert C. Snell of Rochester, New York, has been chairman and Dr. Hedwig Kuhn of Hammond, Indiana, secretary of the Joint Committee. Both the chairman and secretary have written a book dealing with industrial ophthalmology as well as numerous articles for current journals. Other members of the Joint Committee have done valuable work in furthering the investigations sponsored by the Joint Committee and the presentation of programs before scientific assemblies.

Much of the early supervision and planning of the Committee was the direct responsibility of Dr. Snell. He was able to correlate the activities of this Committee with the National Society for the Prevention of Blindness in conjunction with the U.S. Public Health Service in developing and promoting a program of industrial eye hygiene. This association resulted in a nationwide survey of visual problems in industry by the joint efforts of the War Production Board, the War Manpower Commission, the Department of Labor, the United States Public Health Service and the National Society for the Prevention of Blindness.

In the winter of 1944 Dr. Snell expressed a desire to resign as chairman of the Committee because of the tremendous amount of work involved and the necessity of considerable travel. He felt that a younger man should take over the chairmanship of the Committee. He was urged, however, to continue until the end of the year, which he did. In July, 1945, Dr. Snell submitted his resignation as a member of the Joint Committee on Industrial Ophthalmology to the Executive Committee of the Section on Ophthalmology of the American Medical Association. The resignation of Dr. Snell was accepted by the Committee who thanked him very cordially for his masterful efforts in establishing the Committee and streamlining its activities. It is quite fitting that the Chairman of the Section, Dr. Fred Cordes, appointed Dr. Derrick Vail of Chicago to replace Dr. Snell as chairman of the Committee. Dr. Vail's leadership will be of distinct advantage to the societies which he represents and to the public whom he so unselfishly serves. Our most sincere thanks are due to Dr. Snell for his magnificent work on this Committee and we pledge our fullest cooperation to Dr. Vail.

Industrial Ophthalmology

INTRODUCTORY STATEMENT

The Joint Committee of Industrial Ophthalmology, in presenting these and subsequent papers, is eager to bring before ophthalmologist as many as possible of the variations of the problems industrial eye work entails. Dr. Cooper has evolved a technic that has considerably raised the standards of the placement of workers in one of the basic industries—as far as eyes are concerned. It has been my privilege to see this modest and effective program in operation and it has the support of management and workers.

However, I do not believe that because a program works and improvement is noted in quality of production and in safety records, that one can or should say "well enough." In many instances it has been shown that "survival of the fittest" can be improved upon by predicting. This is less expensive. I am sure Dr. Cooper will discover many other factors and continue to add to our basic knowledge of visual efficiency.

Much research work lies ahead for those of us faced with the everchanging processes of industry—each experience provides invaluable data. Dr. Redway's unique contribution indicates very vividly how much more than anatomical, physiological or clinical ophthalmology is needed in the final solution of industrial eye problems. Nor can we expect the engineers and efficiency experts to take over physiological optics, glare factors, color values and all the other facets of the whole bottleneck—painstakingly studied out by Dr. Redway.

The story of one employee's history clearly reveals the need for much fuller examinations, history and findings—it is a confused picture— as are so many that come to us, and therefore illustrates this item.

HEDWIG S. KUHN, M.D.,
Secretary Joint Committee on
Industrial Ophthalmology

A Method of Classifying Employees for Selective Placement

EDMOND L. COOPER, M.D.
DETROIT, MICHIGAN

The reconversion period presents an infrequently found opportunity to introduce a program of selective placement and job analysis to industries which do not already have one. New employees will be hired for new jobs. Whole departments will experience a changeover and new machines will be installed. Old employees will be reexamined after layoffs and in many cases they will be given different jobs requiring different physical skills. Veterans will be returning to industry in increasing numbers, some of them with newly acquired physical disabilities. Jobs must be found for these individuals which they can do efficiently and safely.

This report presents a system of testing vision for selective placement which has been used during the war years in a manufacturing company doing many different kinds of jobs, and should be useful in this post-war time. Prior to the war this company, like many others, rejected persons whose visual acuity was less than 20/40 in either eye. In the war emergency the question came up whether it would be safe to hire people with less visual acuity and the necessity of doing so resulted in this system of selective placement.

Only the near and distance visual acuity need be tested routinely. Other visual functions such as muscle balance, depth perception and color perception may be tested only for special jobs.

The distance visual acuity can be tested with a Snellen wall chart or one of its modifications, and the result is best recorded in terms of percentage of acuity rather than by the Snellen notation. The near visual acuity is tested by the use of any near vision test chart and recorded in terms of percentage. The technic of testing visual acuity is important but a discussion of it will not be included in this report. An excellent review of various technics has been given by Kuhn.[1]

The combined efficiency of the two eyes for either distance or near can then be computed. This is done according to the formula recommended by the Committee on Compensation for Eye Injuries and adopted by the Section on Ophthalmology of the A.M.A.,[2] the better eye being given a rating three times that of the poor eye. Two figures are thus arrived at — the combined visual efficiency for distance and the combined visual efficiency for near, and classification of the employee (as far as his eyes are concerned) is made from these two figures. Figure 1 shows a chart which provides a rapid method of arriving at the combined visual efficiency once the visual acuity of each eye is known. For example, if the distance vision in the better eye is found to be 100 per cent and that in the worse eye 50 per cent, the combined efficiency for distance is 88 per cent.

All examinees are divided into three general groups. Into the first group fall all employees who are physically qualified for the *general field of labor*. These employees are not necessarily qualified for *any* job anywhere in any plant. It is obvious, since no examination has been made of other visual functions than visual acuity, that this group is not necessarily qualified for *any* job. Of this

1. Kuhn, Hedwig S.: Industrial Ophthalmology, St. Louis, C. V. Mosby Co., 1944, p. 36.
2. Report of Committee on Compensation for Eye Injuries, Tr. Sec. Ophth., A.M.A., p. 368, 1925.

more will be said later. The employees in this first group are known as PQ and the group may be called the PQ group denoting "physically qualified."

An employee is PQ (as far as his eyes are concerned) if both his distance visual efficiency and his near visual efficiency fall within the required limits for PQ as shown on the chart, that is, above 90 per cent. (Figure 1.)

		BETTER EYE							
		100	90	85	75	65	50	20	0
W		PQ		PQX		NPQ			
O	100	100							
R	90	98	90						
S	85	96	89	85					
E	75	94	86	82	75				
	65	91	84	80	72	65			
E	50	88	80	76	69	60	50		
Y	20	80	73	69	61	54	43	20	
E	0	75	67	64	56	49	37	15	0

VISUAL EFFICIENCY OF R AND L EYES COMBINED

EQUIVALENTS (approx)							
%	100	90	85	75	65	50	20
FAR	20/20	20/30	20/40	20/50	20/70	20/100	20/200
NEAR	14/14	14/21	14/28	14/35	14/49	14/70	14/140

Figure 1

Other examinees may fall into the third group which is the NPQ group, meaning "not physically qualified" for any job in the *general field of labor*.

An employee is NPQ (as far as his eyes are concerned) if his combined *distance* visual efficiency falls below 75 per cent — as shown on the chart, irrespective of what his near visual efficiency may be.

Between the PQ group and the NPQ group is a large number of employees who are qualified for some but not all jobs in the labor field. This group may be called the PQX group. Employees in this group are "physically qualified with certain exceptions." In other words, employees in the PQX group are qualified for selected jobs not impinging on the individual's disability. An employee is PQX (as far as his eyes are concerned) if his combined distance visual efficiency is below 90 per cent but above 75 per cent, or if his distance visual efficiency is better than 90 per cent but the near visual efficiency is less than 90 per cent.

The PQX group is the important one. Employees in this group are so classified because of some physical defect. It may be impaired near vision; it may be impaired cardiac function; it may be because they have only one arm or one leg. In any event, they must be coded in such a way that it becomes easily discernible just what their limitations are. For example: If a man is unable to do lifting, he may work at any job except one which requires lifting. If a man has poor near vision, he may work at any job except one which requires good near vision. A code number is suffixed to his PQX designation showing just what his limitations are. Figure 2 shows a PQX placement code. It could easily be adapted to any type of industry. The employment and safety departments are charged with the responsibility of knowing just which jobs require lifting, near vision, etc. It is not necessary for them to know the exact diagnosis. They do not need to know whether the applicant is unable to lift because he has a sore back or high blood pressure. All they need to know is that the man should not lift. Similarly, the physician does not need to know every single job. The jobs can be coded by the employment and safety departments and the code numbers matched against the applicant's code numbers. If a job has been coded 50, meaning that it is a lifting job and the applicant is coded 50, meaning he should not lift—he is disqualified for such a job but can do any other job. The same applies to vision.

The question has been asked, time and again, why not do color vision testing, muscle balance, depth perception, etc., routinely. In the first place, to do this routinely in a large concern on the hundreds of applicants being hired each day would be so time consuming as to impede seriously the hiring program. In the second place, there are untold thou-

PQX—PLACEMENT CODE

GENERAL CLASSIFICATION

A. Heavy sustained labor. **B.** Moderately heavy labor. **C.** Light labor. **D.** Very light labor.

MODIFICATION

1. New hire (except service personnel) is NPQ. 2. Hernia statement advised.

General Functions

10. No standing.
11. Standing less than 50% of the time.
12. Standing more than 50% but not all of the time.

20. No sitting.
21. Sitting less than 50% of the time.
22. Sitting more than 50% but not all of the time.

30. No walking.
31. Walking less than 50% of the time.
32. Walking more than 50% but not all of the time.

40. No climbing.
41. Climbing less than 50% of the time.
42. Climbing more than 50% but not all of the time.

50. No lifting or carrying.
51. Moderate or less than moderate lifting or carrying.
52. No pushing or pulling.
53. Moderate or less than moderate pushing or pulling.

60. No stooping.
61. Stooping less than 50% of the time.
62. Stooping more than 50% but not all of the time.

Special Senses

70. No near vision.
71. Some but not good near vision.
73. Some but not good distance vision.
74. No binocular vision.
75. Some but not good binocular vision.
76. No color perception.
77. Has vision in one eye only.

80. No hearing.
81. Some but not good hearing.

Specific Functions

90. No use of right hand or arm.
91. Partial use of right hand or arm.

100. No use of left hand or arm.
101. Partial use of left hand or arm.

110. No use of right foot or leg.
111. Partial use of right foot or leg.

120. No use of left foot or leg.
121. Partial use of left foot or leg.

130. Physical reactions not prompt.
135. No speech.

Environment

140. No danger from dizziness, fainting, or convulsions.
141. Nervous disorder (specify environmental limitations).

150. No exposure to dusts, smokes, fumes, vapors, gases and mists.
151. No exposure to excessive noise.
152. No exposure to excessive heat.
153. No exposure to excessive cold.

160. No exposure to any skin irritants (particularly no wet jobs).
161. No exposure to specific skin irritants (specify).

170. Certain shift recommended (specify).

Figure 2

sands of people with slight visual defects who have been working for years without trouble. In the third place, it may be assumed that if the visual acuity itself is good, by and large, other eye functions are also good. Our experience has justified this assumption. For example, one department in a large gun plant employed over 70 crane operators. None of these operators had any of the visual functions examined except the distance visual acuity when they were hired. They had worked as crane operators for periods varying from three months to three years. A survey of 70 operators during which near and distance visual acuity, near and distance muscle balance, depth perception and stereopsis were examined revealed that none of the operators had a defect which would prevent efficient crane operation. This does not disprove the importance of testing certain visual skills such as muscle balance or depth perception for certain specific jobs but it does bear out the contention that testing the distance and near visual acuity alone will screen out individuals unable to do average jobs in the general field of labor. As Kuhn has stated, "The theory of 'survival of the fittest' has in itself helped to lay out the necessary skills for certain specific jobs."[3]

It should be recognized, however, that some jobs do require special visual ability such as good color vision or stereopsis. In order to be sure that individuals holding these jobs fill the requirements, the Safety and Employment Department may request the special examination. For example, a candidate may be returned to the Employment Department after his physical examination with a PQ classification. If the employee is being assigned to a job which requires a special visual ability such as color vision, he is referred back again to the Medical Department with a request for the special examination. In this way the neces-

3. Kuhn, Hedwig S.: Personal Communication.

sity for testing all the visual functions in all employees is eliminated and yet certain special functions may be tested in specific cases. If the special examination reveals a deficiency in the specific function required, the applicant is so coded (see figure 2).

It is not hard to justify the hiring of PQX individuals. Industry does not hire eyes, it hires function. It is interested in production safely attained, and as long as it can be demonstrated that PQX employees are functionally good and safe employees, they should not be rejected. When this method of classification was first developed, it was thought that the day might return when only PQ employees would be hired. It is now realized that the PQX group is here to stay, and industries which have used the above described method of classification and placement of this group have found it rapid, inexpensive and efficient.

COMMENT

It must be obvious to everyone that the two most important reasons, if not the only ones, for a satisfactory visual screening examination and a selective placement program are first, to reduce the risk of lost-time and disabling accidents and, second, to increase production efficiency. The first involves primarily the interests of the employee and the second involves primarily the interests of the employer. Both are sufficient reasons for instituting a selective placement program. However, such a program must not be regarded as infallible.

Elimination from industry of employees with serious visual defects and the proper placement of those with less serious defects is only one factor in accident prevention. There are other factors, less well defined, which greatly influence the accident rate and these must not be lost sight of by the industrial physician. Industrial ophthalmologists should not think for one minute that satisfactory screening and proper placement alone will eliminate all eye accidents. It has been the experience of one automobile manufacturing company that of all lost-time accidents, 25 per cent are caused by 5 per cent of the employees, 75 per cent are caused by 25 per cent of the employees. This group of 25 per cent of the employees are prone to have accidents, and it is interesting that this group of what may be called accident-prone individuals are nearly all PQ. The proportion of PQX employees in this group is much lower than in the other 75 per cent. It is obvious, therefore, that mere classification of employees according to physical limitation will not eliminate these accident-prone individuals from the field of labor. Call it carelessness or ignorance, stupidity, maladjustment, or whatever you will, there is some other factor in the cause of these accidents than physical disability.

Further proof that physical disability and high accident rate do not go hand in hand is found in a study of experience with the PQX group of employees. This experience has shown that original fears that the substandard workers were "cripples" and greater hazards to themselves and others were unfounded. They have done as good a job of production by and large as the physically qualified. The general feeling is that the substandard workers have not contributed to accidents or absenteeism when properly placed.

SUMMARY

A system of classifying employees for selective placement is described. By means of this system an employee may be classified according to what visual defects he may or may not have, and he may then be so coded that it is at once apparent what jobs he may not be qualified to do efficiently and safely. The coding of the individual according to his visual efficiency fits in readily with a

coding of his general efficiency as determined by a general physical examination.

The system has the advantage that it can be adapted readily to the requirements of any employer without the special training of medical personnel and without the purchase of special testing equipment. It eliminates routine testing of all skills but provides for the testing of certain skills in specific cases.

Plant Experience with Metallic Stencils

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The handling, checking and filing of metal stencils in the publishing industry presents many problems difficult of solution.

The printing and publishing industry uses today millions of these metal stencils for the purpose of addressing mail. These are made of zinc alloy and are punched on embossing machines. In use, the printing is done by machine from the raised or embossed surface. On this surface the letters are in reverse. On the nonprinting side, the letters are intaglio, or depressed below the surface of the rest of the metal. It is this surface, the intaglio face, with which we are concerned. Here the printing is not in reverse, but may be read in the manner of any ordinary print. In all stencil reading and filing operations, in which occupation thousands of operators—many of them women—are employed in the industry, these metal stencils, before and after use, must be checked with copy for correctness of name, address and code marks, and then be sorted and filed in drawers in correct relation to the stencil lying before and behind. It is an exacting occupation requiring a high degree of accuracy of binocular function and accurate depth perception, together with rapid ocular and manual cooperation and equilibration.

The stencils are, in fact, metal mirrors. In the presence of specular light sources, intolerable flashing reflections are produced when the stencils are read from the mirror, or intaglio, side. To avoid the flashing reflections, diffuse illumination was at first resorted to as well as various methods of etching the metal. But while it did in some measure reduce the flashing, it destroyed what little contrast was inherent in the stencil by eliminating all shadows.

A later solution of this problem combined overhead fluorescent lighting of an intensity of 65 foot candles at the working height with an ingenious method devised by Mr. John Gibbs of *Reader's Digest* for filling and wiping the newly embossed stencils with a quick drying ink. Satisfactory contrast was thus obtained with a minimum of glare by reflections. By the simple process of not wiping the filled stencil entirely clean a satisfactory writing medium for pencil corrections or notations was produced as well as a matte surface.

The change-over from 10 to 65 foot candles of fluorescent light was accompanied by numerous complaints. While most employees admitted the manifest advantages of the filled stencils, some experienced vertigo, rapid ocular fatigue, nausea, dull headaches and vague nervous upsets. These complaints disappeared almost completely within a short time and it is noteworthy that they arose in employees who had experienced the switch-over from one type of illumination to the other. New employees who came in after the fluorescents had been installed experienced none of these symptoms. Since 1942 this solution of the problem of glare and lack of contrast in the handling of metal stencils has proved satisfactory and has not been changed.

What visual standards should be set up for acceptance of job applicants for stencil proofing, stencil filing and embossing operations? An operator doing straight filing handles, on the average, 300 stencils an hour. Those doing alphabetical classification handle 550 an hour, while the sorters handle 3,000 an hour. This is at the rate of 5, 9 and 50 per minute, respectively, and the rate is the average rate for this plant. Working hours are from 8:30 a.m. to 3:30 p.m., with suitable morning and afternoon rest periods and a staggered lunch period of thirty minutes with excellent cafeteria. This department employs 90 permanent employees and during the rush period takes on about 360 temporary employees. Most of them are women, and the work is of the fairly monotonous type. This is relieved somewhat by musical programs, but the fact remains that the type of work is productive of eye fatigue and definitely requires a high degree of stereopsis with good muscle balance for the working distance and good eyesight, corrected or uncorrected.

The embossing department employs about 39 permanent employees and takes on for the rush season about 360 young women averaging 19 years of age. In this department the blank metal stencils are embossed on graphotype machines. The relatively short working day at once obviates some of the factors productive of error; good lighting and good work contrast reduce mistakes due to poor visibility and poor visualization. The fact that the employees in this department are mostly young women again obviates some of the disadvantages encountered in the eyes of the aging while at the same time introducing the factors of emotional instability and not always fully developed coordination.

To meet the demands of these departments that handle stencils we have set up a Group I classification. The profile of this group appears in figure 1.

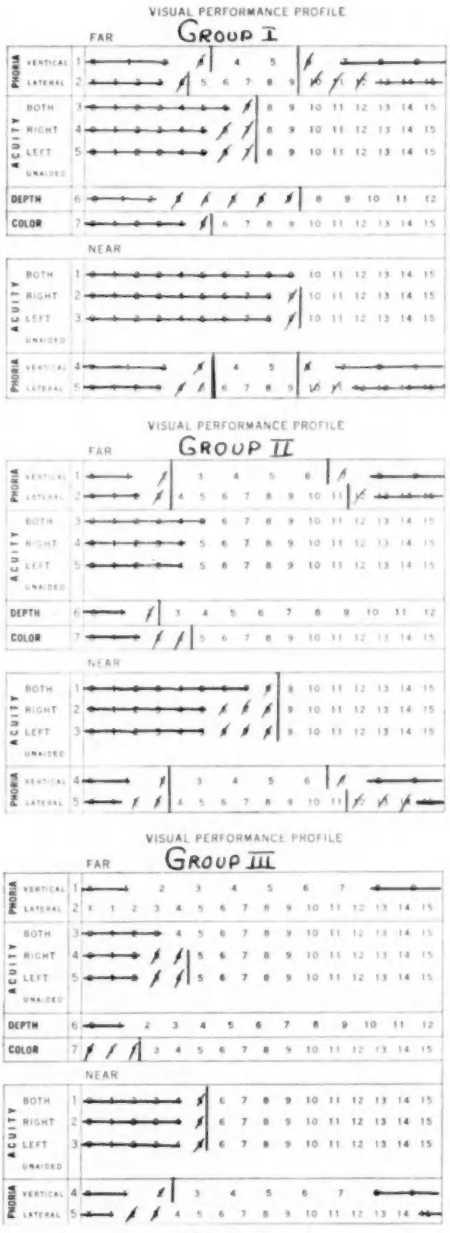

Figure 1

It seems to work satisfactorily. Admittedly it is a high standard. It applies to our classification of other departments at the Group I level, given in figure 2.

GROUP I

Editing and Proof	Rep. Editing	
Donor Typing	Stencil Sort	
Embossing	Stencil File	
Accounting	File	Repair
Analysis	Mail Readers	
Billing	Mail Sort	

GROUP II

Addressing	Editorial Correspondence
Adjustment	Gift Addressing and Donor
Agent	Mailing
Business Correspondence	Multigraph
Cashier	Secretaries
Editorial	Typing and transcribing
	Switchboard

GROUP III

Cafeteria	Messengers
Executives	Personnel
I. O. Mail	Receiving
Maintenance	Stock
Medical	Teletype

Figure 2

Any employee or job applicant who just fails to meet the requirements of Group I in one or more of the ocular functions tested is classed Group II O.K., which means employable as Group I subject to performance on the job. This permits evaluation of other than ocular aptitudes and competency by personnel and department heads. It also permits some necessary latitude in view of the somewhat stringent constrictions of the present day labor pool in this area.

If experience with the various methods of visual screening has taught us anything it seems to be to beware of too rigid interpretation of apparent ocular inadequacies in human beings. Compensations of various kinds and degrees are not evaluated in a profile.

A Plant Experience — Hosiery Mill Medical Department

Looper, age 34, female — This employee began looping at the age of 16. In the latter part of 1928 or early part of 1929 when she was about 17 years old she was fitted with her first pair of glasses. She wore these about ten years, visiting her oculist only once during this period, and no change in lens was made.

Her employment was uninterrupted except for time off for the birth of two children until 1938. In 1938 her health began to fail. She was found to be suffering from a low grade of anemia, mild hyperthyroidism, a third degree retroversion of the uterus, and continuous and severe headaches. She lost six weeks' work because of these complaints. During this year she visited her oculist again and a change was made in her lenses.

In March of 1939 she took another sick leave for five months returning to work in August. She was able to work only for half days and could not resume full time employment until the following February. During this absence she had abdominal surgery and roentgenotherapy for her thyroid. These roentgen treatments were given for several months. Later in February 1940 she was placed on the thyroid extract and took this over a prolonged period of time.

In August 1940 she took a three months' sick leave due to fatigue and result of previous illness at which time she was placed on Lextron therapy.

She was absent intermittently for a few days at a time due to fatigue. She made two trips to her oculist but no changes were made in her lens. About this time her efficiency on the job showed a decided decrease. She was advised by her family physician, oculist, her husband, and the company's medical department to give up her work and stay at home, but she refused and continued to work.

In January 1942 when looping production was cut she was transferred to another department as a power sewing machine operator and later was promoted as an instructor. At frequent intervals

she expressed her desire to return to looping as she said she was much happier doing looping than any other type of work or staying home regardless of the discomfort she suffered on the job.

In October 1942 it was necessary for her to take sick leave because of nervous exhaustion. While on this sick leave she had her teeth extracted and lost considerable blood. Again her family physician advised her to quit work and, because of the company's knowledge of her unhappiness with her present job and her difficulties in looping, the medical department also encouraged her to quit. This time she took the advice and did not return from the sick leave.

In July 1944 the company needed experienced loopers and this employee returned to work in the looping department. When she was rehired she was given a thorough pre-employment test which recorded all of her visual skills. She fell slightly below the standard set for loopers but since she had an appointment with her oculist for professional eye care in a month she was permitted to go to work. Her oculist advised her that no change in lens was necessary and that he was unable to do anything for her until her general physical condition was improved. Her efficiency dropped and her production reached such a low point that her department head considered her dismissal.

In October 1944 she was referred to another professional eye man and in December she was fitted with *occupational lenses*. In consultation with her on March 29 she remarked that she was wearing her occupational lenses on the job and for sewing at home and no longer wearing her other lenses. She again started taking thyroid extract in January, is still taking it, and the Lextron therapy has been continuous since 1940. She has lost weight (desirable in this case) and feels much better than she has for years. From December 1944 until March 1945 her production showed an increase of 12 per cent.

On July 20 this employee reported that she has had no headaches since she received her occupational lenses. She is now wearing them practically all of the time except for movies and when walking on the streets. She also states that if she felt any better she would work twenty-four hours a day instead of twenty-two. There has been an additional 12 per cent increase in her production since March.[1]

1. Two hundred loopers in a hosiery plant are all given occupational correction in line with 8" to 10" work distance and phorias found at work distance. See "Industrial Psychology" by Joseph Tiffin, Ph.D., San Francisco, Prentice-Hall, 1942, p. 162-4; and "Industrial Ophthalmology" by Hedwig S. Kuhn, M.D., St. Louis, C. V. Mosby & Co., 1944, p. 103-5.

Report of the Committee on the Conservation of Hearing*

Consideration of the accomplishments to date of the Committee on the Conservation of Hearing reveals that while progress has been made, many of the committee's objectives are yet to be attained.

The long-range program adopted at the time of the committee's reorganization is as follows:

I. Promotion of active interest in the conservation of hearing by proposing:
   A. Special studies of specific otological diseases.
   B. The testing of school children, and establishment of state programs to encourage legislation promoting this phase of the work.
   C. The testing of adults.
      1. The use of audiometric testing and routine health examination for those in industry to aid prevention, early discovery and treatment of hearing deficiencies and in both educational and vocational adjustment of those so handicapped.
      2. Testing of individuals who served in the armed forces, with special reference to treatment and rehabilitation.

II. To endorse and support the work of the Council on Physical Medicine of the A.M.A., with special regard to:
   A. Standardization of the instruments for testing hearing acuity, hearing aids and other acoustical apparatus.
   B. Ethical standards of manufacturers and salesmen in the sale of hearing devices to the public.

III. To promote educational programs for physicians, educators, legislators and the general public regarding the problems of the hard of hearing.

IV. To encourage research relating to the problems of the hard of hearing.

V. To stimulate undergraduate and postgraduate education in otology.

VI. To establish otological rehabilitation clinics in centers of population in cooperation with medical schools, hospitals, private and public clinics.

A review of the accomplishments of the Committee during the war reveals that little has been accomplished and much remains to be done. The general lack of interest displayed seems chiefly due to the fact that during the war the otologist has had little time to devote to the Committee's problems.

The Committee felt that its first duty was the promotion of an educational program. The following projects were included:

A. A sound and color motion picture entitled "The Right To Hear" was made. The picture showed the need for conservation of hearing in general, with special emphasis upon its importance to the school child. The film is owned by the Academy and a number of copies are available. It has been in constant use in this country and in England since its completion.

B. A second sound and color film now is being made which will consider examples of early hearing losses and their treatment. This film will

* See Committee Reports, TRANSACTIONS, pp. 113-118, Nov.-Dec., 1945.

be available for showing by October 1, 1946.

C. Two manuals have been prepared and are available upon application at the home office. They are entitled, (1) "A Syllabus of Audiometric Procedures in the Administration of a Program for the Conservation of Hearing of School Children," and (2) "A Manual of Programs Outlined for Rehabilitation of Aural Casualties, Both Military and Civilian."

D. A manual on the fitting of hearing aids is in preparation and will be available by October 1, 1946 for use in rehabilitation clinics.

E. The Committee on the Conservation of Hearing has developed its own scientific program which is presented at the annual meeting. Subjects proposed for the next meeting are as follows:

1. THE FITTING OF HEARING AIDS—Capt. Raymond Carhart and Lt. Eva Thompson. This is a joint paper on the activities of the army and navy, giving up-to-date information concerning their work.
2. PUBLIC SCHOOL HEARING PROGRAM AND DEMONSTRATIONS—Dr. Charles E. Kinney, Cleveland, Ohio. This will include a discussion of an ideal program for testing school children, with a step-by-step method for organizing such a project.
3. A DEMONSTRATION IN LIP READING—Mr. Howard Carter and Dr. Harold Westlake.

In connection with this demonstration a contest has been arranged, with prizes for the winners.

4. A PAPER ON INDUSTRIAL ACOUSTICAL TRAUMA

The Committee hopes to procure a speaker actively engaged in industrial medicine. This paper would discuss the role of the otologist in relation to this problem and would include data available concerning the various types of noises and their incidences, what is happening to individuals employed in noise, and the employment of individuals with history of ear disease.

F. An exhibit exemplifying the activities of the Committee is presented at the Scientific Exhibit of the annual meeting.

G. The instructional section in otolaryngology offers courses concerning the conservation of hearing at the annual meeting.

H. Many papers and demonstrations are being given constantly by members of the general committee.

Special summer school courses in the training of assistants to otologists also are being sponsored by the Committee. Trainees are given instruction in testing of hearing, fitting hearing aids, and basic principles of speech and auricular training and allied subjects. These courses place considerable emphasis upon public school testing and follow-up treatment. Courses now are available in two universities, and it is hoped that more will be organized in the near future. The Committee feels that well-trained assistants could be of invaluable assistance to busy otologists, providing the assistant is under the otologist's supervision.

Representatives have been appointed in each state to promote the activities of the Academy Committee. They have been concerned particularly with the establishment of "complete" otological clinics which would include physical examinations and treatment, fitting of hearing aids, consultation service in lip reading, auricular training, psychological referral, etc. The representatives also are asked to promote programs for the testing and treatment of school children, and to organize state and local committees on the conservation of hearing.

Owing to problems associated with the war, this part of the program has not progressed as satisfactorily as had been anticipated. Since this is perhaps the most important part of the general plan, the Committee now is studying methods for giving more direct aid to these representatives. The feasibility of appointing a fulltime director to advise and to correlate activities of state and national organizations is being considered.

Much time has been devoted to the important problem of methods for fitting hearing aids. At present, most individuals needing aids must rely upon the local representative of the hearing aid company, and so are limited to the trial of only one instrument. Few of these individuals have had medical examinations, advice in regard to lip reading, auricular training and other referrals, when these were necessary. The Army and Navy have done a great amount of research in the fitting of hearing aids, but their present methods would be impractical for the average otologist. The ideal solution, the Committee feels, will be the establishment of as many clinics as possible affording complete service to the patient: physical examination, treatment when necessary, fitting of hearing aids without regard to number or make, and necessary referrals for speech training, auricular training, and psychological adjustment. It will be a long time before there are enough clinics to meet the need. In the meantime, patients and otologists must depend for the most part upon representatives of hearing aid companies, who deserve considerable credit for the work they are doing.

The Committee has been cooperating with other agencies in the standardization of forms for audiometric tests. In this connection, Lieutenant Thompson has given the following report:

During the past six months, the questionnaire which was sent out by this committee a year ago has been presented to and discussed with a great many workers in the field. Their opinions are included with those of the individuals to whom the questionnaire was sent originally. In reviewing the responses to the questionnaire, the following conclusions have been drawn:

1. Uniformity of audiometric forms and methods of recording are desirable.
2. Simplicity of form is necessary for clarity.
3. All test frequencies of accepted commercial audiometers should be on the chart form.
4. The chart should have spaces for recording the total range of attenuation of accepted audiometers.
5. The symbols to be used for the right and left ears should be printed on the form. The consensus is that a circle should be used for the right and a cross for the left ear.
6. The chart should include a space to indicate the type of audiometer used. When and if audiometers are standardized this can be eliminated.
7. A central, non-commercial distributor of audiometric forms should be established.
8. Inasmuch as bone conduction testing methods and audiometer attachments are not standardized, it is difficult to adopt a method for recording bone conduction tests. The present symbols for recording bone conduction tests are unsatisfactory and confusing.
9. The lack of general agreement concerning masking technics makes a uniform method of recording impracticable. At the present time it is necessary to indicate the technic used.

10. Complete knowledge of the various methods of presenting audiometric data which have been used and published by workers in the fields of otology and audiometry should precede any attempt to develop a uniform type of chart.

The rapidly changing conditions and progress in the field of audiometric testing make it seem advisable to defer presenting a tentative standard chart at this time. The reasons for this decision are as follows:

1. Methods of testing are still in a formative stage.
2. Environmental testing conditions are not uniform.
3. Audiometric testing technics are not standard.
4. Reports indicate that the committee on the standardization of audiometers and hearing aids favors changing the frequencies used on audiometers to even numbers. Such a change would necessitate a revision in the form of the audiometric chart.

It was decided that the committee should continue its investigations. No action has been taken to date.

Valuable assistance has been given the Committee by the American Society for the Hard of Hearing, and otologists are reminded that the various chapters of this society can give valuable aid in disseminating information regarding referral services as well as in conducting classes in lip reading, and auricular training, and in aiding the rehabilitation program.

The Committee appreciates greatly the help it has received from many sources. It is hoped that the end of hostilities will mean that more physicians can cooperate in achieving the vital goals so necessary if the hard of hearing are to receive genuine help.

DEAN M. LIERLE, M.D.
Chairman

1946 DIRECTORY NOTICE

THE DIRECTORY FOR 1946 is now being prepared. So that we may bring it as completely up-to-date as possible, please forward any change of address promptly to: American Academy of Ophthalmology and Otolaryngology, 100 First Avenue Building, Rochester, Minnesota.

BLEPHAROPTOSIS

Congenital and Acquired

(Symptomatic, Classification and Correction)

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DESCRIPTION AND ANATOMY

Blepharoptosis, more commonly spoken of as ptosis, is the inability to raise the upper lid due to a paralysis or paresis of the levator palpebrae superioris muscle. It may be congenital, follow trauma, accompany inflammatory conditions of the orbit, or be part of a partial or complete external ophthalmoplegia. The paralysis need not be complete—simply present to such a degree that the weakened muscle is unable to raise the lid against the resistance of the orbicularis oculi muscle, plus the weight of the lid itself. Cicatrices in the upper lid simulate a ptosis frequently, but if the levator palpebrae superioris is not paralyzed, the correction of the ptosis is simply a matter of scar tissue resection and of suture, permitting the levator to again function as it should.

Referring to the anatomy of the lid, for ptosis, we must consider three muscles of importance: (1) the levator, (2) the superior rectus, (3) the occipitofrontalis. The levator is histologically and embryologically in close association with the superior rectus. The occipitofrontalis is truly an accessory muscle of lid elevation, and as such is to be utilized frequently.

The levator tendon is significant to ptosis only in its attachments. The tendon is attached to the fibers of the orbicularis palpebrarum by an upper lamella which overlies the anterior surface of the tarsus to form a potential space. This upper lamella also sends some fibers to the orbital septum and to the nonstriated muscle fibers. A middle lamella of the tendon aponeurosis is attached to the posterior surface of the tarsus, and not infrequently sends some reflected fibers to the underlying superior rectus muscle. This lamella is not too clearly defined, however, except with very careful dissection. It has some attachments to the upper border of the tarsus as well. A more clearly defined lowermost lamella is inserted into the superior conjunctival cul-de-sac. This lamella is defined largely because it consists to a great extent of thickened muscle sheaths. There are in addition two definite horns of the levator aponeurosis attached to the inner and outer canthal ligaments. These are significant, in ptosis surgery, in that they act as check ligaments to the upward action of the lid, they maintain the lateral spread of the fan shaped aponeurosis, and following levator shortening assist in supporting the conjunctival cul-de-sacs at the canthal angles.

Ptosis cases may be divided into two types, those without and those with a surgical relationship. Most congenital cases require operation. They are the classical cases with a surgical relationship. A progressive and recently isolated paralysis of the levator muscle alone, however, is not to be corrected surgically until all other means of treatment have failed. This type of ptosis lies in the borderland between surgical and nonsurgical indications. One would not

consider the surgical correction of ptosis resulting from an intracranial neoplasm until the patient has a more or less permanent cure. The same applies to a complete external ophthalmoplegia, unilateral or bilateral. In such instances diplopia would result and the cornea probably be lost from consequent exposure and drying. The ptosis of myasthenia gravis is probably the best example of an absolute contraindication to surgery. In this the degree of ptosis is always changing. Cases of myasthenia gravis are present without ptosis and intervals will occur when the ptosis is practically complete.

Congenital ptosis in a large percentage of instances, even when recognized as such by the parents or physician, is permitted to continue uncorrected apparently in the hope that nature will work a miracle for the child. It is a fact that in many instances ptosis is not seriously considered before the child is three years old and even later in life. Histories obtained from parents prove this to be true. If diagnosis and treatment are established in the fourth year, the fifth year, or even the sixth year, the end results may not be too inadequate, but when a sixteen-year-old child of a physician reports for the surgical correction of ptosis with a visual acuity of 5/500—a now practically intractable amblyopia in that eye—then one is fully justified in thinking that carelessness is also a factor.

CONGENITAL PTOSIS

Congenital ptosis, excluding certain complicated cases, is a result of congenital developmental defects in the levator and superior rectus muscles and with their innervations. A not too inconstant familial relationship is present. The cosmetic blemish alone of unilateral or bilateral ptosis of the upper lid or lids as the result of a simple levator muscle nerve impairment should be in itself sufficient to demand correction. If the ptosis is not corrected early the child develops amblyopia, awareness of the defect, concern about it, and an inferiority complex.

The not infrequent superior rectus paralysis, unilateral (that is homolateral), bilateral, and contralateral, is at least of equal importance in the causation of the other complications of ptosis; conditions which are even more serious than the simple cosmetic defect. These conditions include amblyopia, the loss or lack of single binocular vision, curvature of the spine, epicanthus, torticollis, and/or spasm of the occipitofrontalis. These are conditions which can and frequently do affect the child to a profound degree, even when mental adjustment or compensation is achieved. Occasionally, however, the child fails to develop necessary mental and physical adjustments adequately.

The problem of developing single binocular vision in the infant is definitely one of the development of balanced conditioned reflexes. This depends upon the absence of pathological sensory and motor obstacles. One is not astonished at the appearance of torticollis, of amblyopia, of indocility, and of all types of situation and compensation neuroses and even psychoses when binocular vision is absent.

CLASSIFICATION OF CONGENITAL PTOSIS

An analysis of private and clinic cases of blepharoptosis seen over the past twenty years yields nine subdivisions as a basis for the following classification of this condition as well as the percentage incidence for each subdivision.

Class 1. Unilateral ptosis without superior rectus involvement. Seven cases are included in which there was amblyopia of 6/22 or less; one case with torticollis. (The torticollis suggested a paralysis of a vertical acting muscle.) 40 per cent of all cases.

Class 2. Unilateral ptosis with involvement of the homolateral superior rectus. These included four cases with amblyopia of 6/22 or less and two cases with torticollis. 21 per cent of all cases.

Class 3. Bilateral ptosis without superior rectus involvement. In one case there was a unilateral amblyopia of 6/22 minus. Seven per cent of all cases.

Class 4. Bilateral ptosis with bilateral superior rectus involvement. In four instances the superior rectus involvement was one-sided only; in two cases there was torticollis. Eight per cent of all cases.

Class 5. Unilateral ptosis with weakness of both superior recti; more marked, however, in the homolateral eye. Five such cases have been seen; in two there was torticollis and some amblyopia. One patient maintained fixation usually with the eye that had the ptosis; that is, the left eye. A secondary deviation, right eye, with fixation maintained in the left eye because of its better vision, was the cause of the diplopia. In another case there was an almost complete ptosis, and in the third marked fibrosis of the homolateral inferior rectus. Two per cent (plus) of all cases.

Class 6. Ptosis with more or less complete third nerve and even with sixth nerve paralysis. Four of these were bilateral and five others were unilateral; in eight cases there was torticollis; in one unilateral case, in a young lady aged twenty years, there was amblyopia with vision of less than 1/100. Her degree and type of squint (divergent) was that of a strabismus fixus. In another unilateral case possible inferior and superior rectus paralysis existed. In one unilateral case the internal and the superior rectus were involved; in a second the left internal rectus was impaired; and in the third the superior rectus was impaired, homolaterally with a fibrosis of both inferior recti. Another patient had ptosis of the left lid with a paralysis of the external rectus. Nine per cent of all cases.

Class 7. Ptosis with the classical jaw-winking reflex; the Marcus-Gunn syndrome of misdirection of developing fifth cranial nerve and tracts and oculomotor nerve fibers. According to Bing and Haymaker (5th ed., St. Louis, C. V. Mosby Co., p. 589, 1939), "The Marcus-Gunn phenomenon occurs not only in cases of congenital ptosis, but also in individuals with acquired ptosis and in some who are free of ptosis." According to Helfreich and Berkhard, this phenomenon can be explained only on the basis of neuronal intercommunication between the nuclei of the facial, trigeminal, and oculomotor nerves. Such an intercommunication has recently been denied by Lewey, Groff, and Grant. These authors stated that the Marcus-Gunn phenomenon is completely abolished by section of the motor root of the trigeminal nerve but that with forcible movements of the jaw postoperatively the associated movements of the eyelid could still be elicited. This suggested to them the presence of a proprioceptive reflex arc, the afferent limb of which is the sensory portion of the mandibular division of the trigeminal nerve. They assumed that the efferent part of the arc—that which passed to the eyelids—was via autonomic fibers whose pathway was undetermined but thought to be via the ophthalmic division of the trigeminal nerve. The author cannot agree with this hypothesis, considering the third nerve motor innervation of the levator, and judging from the many other not uncommon cranial nerve, pathological, intermingled syndromes seen, congenital as well as acquired. Nevertheless, the question is answered as unsatisfactorily by postulating the presence of brain stem internuclear

communications, as suggested by Helfreich and Berkhard.

The observations of Lewey, Groff, and Grant can be answered in part upon the basis of Cannon's law of denervation. This states (Walsh) "that postganglionic and to a lesser degree preganglionic section of a nerve results in increased sensitivity of the innervated structure to the chemical mediator, whether or not that substance is sympathin or acetylcholine. The sensitivity persists providing that regeneration does not occur and that the innervated structure does not become atrophic." Hence it seems rather unnecessary to assume a proprioceptive reflex arc, with its efferent portion still intact, as the reason for the condition. Their observation is possibly correct. This same thing, however, was seen in a feebleminded individual who became emotionally upset when chided (strong elevation of both lids), and Walsh saw it in a patient in whom the lid became elevated invariably when he lost temper or became interested in an attractive member of the opposite sex. One wonders why this syndrome cannot be caused by the congenital misdirection of developing peripheral nerve fibers, the faulty distribution occurring in the neighborhood of the posterior longitudinal bundle, without brain stem neuronal internuclear communications. Certainly this seems plausible when one considers the many vagaries of the pseudo-Graefe syndrome, and, perhaps, the results which can be obtained by the surgical anastomoses of facial, hypoglossal and spinal accessory nerves. Three per cent plus of all cases.

Class 8. Ptosis with the Duane retraction syndrome. These were undiagnosed until the tenth year of life; at least, they had not been seen by a physician. In a case not included herein there was ptosis only on right lateral rotation of the left eye, which also had an incomplete congenital sixth nerve paralysis. It was not a true case of retraction syndrome (though with some enophthalmos) nor a strabismus fixus. Two per cent of all cases.

Class 9. Ptosis with neurofibromatosis. In 14 cases of orbital plexiform neurofibromatosis, ptosis was present in 10 instances to a marked degree. These were due to neoplastic infiltration and to destruction of, or interference with, the levator. Ten per cent of all cases. (This incidence is high—but these cases are not usually nor primarily included in a discussion of congenital ptosis.)

In an analysis of these cases, as to incidence, it is proper to omit those of neurofibromatosis, for they are not related in incidence, nor in cause. If this is done, it is seen that in a very few less than 100 cases operated on for congenital ptosis, the following significant and interesting factors appear. Approximately 75 per cent are unilateral and 30 per cent of these are complicated; that is, other factors of clinical significance were involved besides the cosmetic blemish of the drooping lids. In almost all of the cases of bilateral ptosis, there were exaggerated epicanthal folds, especially in the younger patients, and in addition to this 37 per cent were complicated by factors other than the epicanthus and the bilateral ptosis. Epicanthus, alone, is a condition which should not be treated surgically until the patient has reached adult facial growth, for many of these correct themselves spontaneously when and as the growth is reached. Instances may arise, however, in which the degree of epicanthus is so severe that some corrective surgery is indicated before that time. Some of these eyes have varying degrees of trichiasis. This must be corrected at an early date.

Some other congenital defects are to be noted, such as external canthal defects, ankyloblepharon, primary epican-

thus of high degree, lid colobomata, and others, which may have an accompanying ptosis. In these cases, however, they are only secondary to the plastic defect and usually are not of neuromuscular origin.

In studying these arbitrary anatomical subdivisions of congenital ptosis, one must agree that several of the classes overlap. Even though Classes 5 and 6 are not too dissimilar, and although they represent approximately 10 per cent of all cases, they still are sufficiently unlike to be listed separately.

The surgery indicated in the various cases is, however, an important factor in favoring the former more extensive classification. Because of several close approximations, the classification already made can be simplified to some extent for a final anatomical subdivision, as follows:

Class 1. No change: 40 per cent of all cases.

Class 2. To include Class 5 of the former division; 23 per cent of all cases.

Class 3. No change: Seven per cent of all cases.

Class 4. To include Class 6 of the former division; 17 per cent of all cases.

Class 5. Jaw-winking cases.

Class 6. Retraction-syndrome cases.

Class 7. Neurofibromatosis and all such congenital plastic defects as those aforementioned. If these are included as such, however, it will change to some degree the percentage incidence of the true ptosis cases as mentioned herein.

ACQUIRED OR SYMPTOMATIC PTOSIS

Acquired ptosis is of interest not so much in the number of cases seen, as in the various etiological factors which cause it. A table of percentages of etiological incidence has, however, relatively little value comparing congenital with acquired ptosis. One observer associated with a large neurological and neurosurgical service would find an unusually high incidence of such cases; another with a large practice in industrial ophthalmology would find that trauma predominated as a cause; a third, closely associated with an extensive endocrinological service, would find a disproportionate incidence in myasthenia gravis and in the thyrotoxic forms of acquired ptosis. For this reason, no attempt is to be made to give the percentage incidences of the various forms in an analysis of somewhat less than two hundred and fifty cases. It is sufficient to call attention to the relative frequency of acquired ptosis and its many possible causes. While the condition is essentially a symptom of other pathological conditions, the correction is frequently separate from that necessary for the basic etiology.

Cases appear repeatedly which simulate congenital ptosis to a marked degree. The history of the patient's disease should be sufficient to arrive at an estimate of etiology, if not by affirmation, at least by the elimination of various probable factors. This applies especially to central, nuclear, and brain stem pathology, for in these conditions a remarkable similarity to true congenital ptosis frequently appears. The combination of a superior rectus with levator palsy, as a single pathological finding, would make a diagnosis difficult without an accurate history.

The principal causes for acquired ptosis are post-traumatic condition, neuromuscular situations, and as complications of neurologic and/or neurosurgical conditions. Some of the subdivisions are to be given intermesh, necessarily so, in that the classification is based upon etiological as well as anatomical situations.

CLASS 1. TRAUMATIC PERIPHERAL

A. Peripheral, as one would see with a complete or an incomplete sectioning of the levator; hence the inability to ele-

vate the lid. A wound of the orbit through the upper lid from windshield glass is not uncommon as a cause.

B. Peripheral and Cicatricial, in which the muscle is uninvolved, but scar formation prevents normal amplitude of movement. The scar may be either in the skin, in the cul-de-sac, or in both.

C. Peripheral and Cicatricial, from conjunctival and muscle involvement as with a trachomatous symblepharon or as the result of chemical or hot metal burns, wherein the symblepharon lies largely in the superior fornix.

D. Peripheral, resulting from the destruction of bone tissue as in osteomyelitis, or with loss of soft tissues of the upper lid, or a combination of the two. This should also include the ptosis following blepharoplastics. The surgery of a superior or supraorbital route orbitotomy, even with the best surgical manipulations may be followed either by the development of ptosis, or the exaggeration of a ptosis previously present, but to a lesser degree.

E. The ptosis which appears at times after reconstruction of a socket. It is probable that a large number of these cases are due to a more or less complete destruction of the levator as the result of the reconstructive surgery. It emphasizes the importance of not injuring the levator in the superior cul-de-sac during a socket reconstruction.

CLASS 2. TRAUMATIC, CENTRAL, AND CEREBROSPINAL

These are essentially a third nerve paresis or paralysis or a cervical sympathetic paralysis caused by section of the nerve. They will be considered later under third nerve pathology; here, however, the significance is that of trauma.

CLASS 3. PERIPHERAL, INFLAMMATORY OR NEOPLASTIC, THE RESULT OF INTRA-ORBITAL PATHOLOGY.

Many of these cases have, as an accompaniment, unilateral exophthalmus with a displacement of the globe in various directions. One case was that of ptosis from retrobulbar wooden foreign bodies which had been in the orbit for almost one year. Another was the ptosis of a retrobulbar pseudotumor. A third was the ptosis of a retrobulbar neuroma. Another illustrated ptosis from a mucocele of the frontal sinus; another ptosis from an orbital hemangioma. Still another case showed a tremendous degree of ptosis from a carcinoma which arose in the maxillary antrum and extended into the orbit. Another case showed ptosis possibly from a gumma of the orbit. (This diagnosis was never histologically nor certainly therapeutically confirmed in that the patient left the Wills Hospital before this was done. She did have, however, the serology and the accompanying subjective symptomology of an orbital gumma.)

CLASS 4. ATONIC PTOSIS.

This is the ptosis of senility, of blepharochalasis, and should also include the essentially atonic ptosis which one sees occasionally after old simple enucleations, wherein there had been no tenon's capsule implant. These cases usually have a large, dry, atrophic socket with a flabby, relaxed upper lid.

CLASS 5. NEUROMUSCULAR DISTURBANCES

This form of ptosis is best illustrated by that seen after the physiologic administration of curare. Myasthenia gravis is the characteristic pathological situation. The myasthenia of a thymic tumor is rather similar. The myasthenia that occurs with the ophthalmoplegias of thyrotoxicosis is a third. These three forms of ptosis are to be considered as a symptom rather than the disease itself. All three of them are not uncommonly associated with a paralysis of the superior rectus as well. The exophthalmus and the ophthalmoplegias of the thyrotrophic disturbances are both

secondary to the muscle changes and the two, basic etiology and the result, are otherwise not related to each other. In addition, in thyrotrophic disturbances upward movements are frequently affected at first, and these cases are more commonly associated with lid retraction rather than with ptosis. The differentiation between these three forms of myasthenia is interesting. The ptosis of curare responds to prostigmine as does the ptosis of myasthenia gravis, especially when this is accompanied by some physical exertion. The ptosis of a thymic tumor is cured by the removal of the offending gland. The ptosis of thyrotoxic myasthenia does not respond to prostigmine and is associated with an elevated basal metabolic rate with other general symptoms of toxicity.

CLASS 6. THE PTOSIS OF CERVICAL SYMPATHETIC INVOLVEMENT

This degree of ptosis is never as profound as is the ptosis of third nerve levator involvement. The lid fold is usually intact. The commonest example of this is the classical ptosis of a Horner's syndrome. The ptosis of a cervical sympathetic paralysis maintains rather well an orbital-palpebral fold; this is a characteristic of this type of ptosis.

CLASS 7. THE PTOSIS OF THIRD NERVE INVOLVEMENT

A. Peripheral extracranial. One such case was a complete third nerve palsy, permanent, internal, as well as external, consequent upon the unintentional retention of a packing following the exenteration of the ethmoidal sinus. Another was one of ptosis with a simultaneous superior rectus involvement, that is, both branches of the upper division of the third nerve were affected following a blow to the orbit. During the acute phase there was some exophthalmus present. It is quite likely, therefore, that this was vascular in origin. Another case shows ptosis, with a sixth nerve palsy, from a stab wound of the orbit. Similar situations are seen following gun-shot wounds of the orbit and fractures through the medial and superior lateral wall of the orbit.

B. Infranuclear, but intracranial. This is the type of case following cranial injury, and is most commonly responsible for the pseudo-Graefe syndrome. This same type of ptosis is seen with perichiasmal pathology, with an aneurysm near or of the circle of Willis, and is a part of the temporary to permanent ptosis of hemiplegia alternans superioris from interpenduncular vascular pathology. The condition is essentially an incomplete third nerve paralysis. The temporary preoperative and not uncommon postoperative ptosis of intracranial neoplasms also fall into this class. One such was a case of permanent ptosis following a right-sided, temporal-lobe glioma (posterior portion), in which there was an almost complete permanent third nerve palsy following recovery from the craniotomy. These infranuclear forms of ptosis may be either temporary or permanent, depending wholly upon the etiological factor. Still another type of case might be included in this subdivision, i.e., the complete ptosis from cerebrospinal syphilis. One is not certain, however, whether this type of case should not be included with the third nerve nuclear involvements instead.

C. Third nerve ptosis from nuclear and intranuclear situations. A complete third nerve paralysis is, of necessity, rare, because of the amount of cortical substance that must be damaged in such a condition. Incomplete nuclear conditions are more common. This includes ptosis as a syphilitic manifestation. Inflammatory, vascular, and degenerative conditions are the other subdivision histologic etiological factors. All three may be at times caused by syphilis; they may be the result of a virus infection from

bacterial invasion, or the result of disturbed metabolism. Trauma might be a very uncommon cause. The stationary and progressing forms of internal and external ophthalmoplegia, as seen with Graefe's disease, in its progressive characteristics, the permanent ptosis of lethargic encephalitis, and the permanent ptosis of postinfluenzal encephalitis, if this is a separate pathological entity, are all illustrative of these conditions. Encephalitis, which is not too rare an accompaniment of anterior poliomyelitis, occasionally results in ptosis. It is predominately unilateral, but with some bilateral involvement. Chronic inflammatory degenerative situations are well illustrated by the ptosis of cerebellar ataxia. Vascular involvements have already been discussed in part. Another type of ptosis is that of ophthalmoplegic migraine. This is probably a recurring vasculra condition terminating in central nervous system focal atrophy and the peripheral paralyses as seen; also not necessarily a complete third nerve paralysis. This condition probably manifests the most complete type of combined internal and external ophthalmoplegia from nuclear pathology. The intranuclear syndrome, as from a severe birth trauma, also probably vascular in nature, is well illustrated in the following case. The patient had an almost complete levator involvement on the left; with this a complete paralysis of the inferior oblique, and a left-sided and partial right-sided external rectus involvement. The ocular syndrome was the result of a very rapid forceps delivery (of necessity, for the mother was in extremis) and had other accompanying signs especially in the earlier years of life of intracranial damage.

CLASS 8. PTOSIS WITH AND OF THE PSEUDO-GRAEFE SYNDROME.

This has been discussed under infranuclear third nerve involvements.

CLASS 9. HYSTERICAL PTOSIS

Two forms of hysterical ptosis have been described, a paralytic as well as the pseudoptosis of blepharospasm. Various observers have described both of these types, speaking of them as either a flaccid or a contracture form. A case of bilateral hysterical ptosis of the contractive type was recently presented by the author. Bilateral hysterical ptosis is rather uncommon. The unilateral form is much the more common of the two.

In discussing their etiological factors, there are probably other situations which cause ptosis of the lid. The cases presented, however, illustrate many of the possibilities.

SURGICAL CORRECTION OF CONGENITAL PTOSIS.

The most important factor to be considered, after diagnosis, is the matter of surgical correction. Surgery for the oculomotor complications follows the established rules in force for paralytic strabismus, modified only by the following features: the presence of torticollis, for that indicates a struggle against diplopia; the identity of the fixating eye, for squint may be manifest because of a secondary deviation; and the danger involved in correcting a vertical deviation, namely, of destroying all vertical elevators, right or left hand elevators, while attempting to eliminate this vertical defect.

Levator advancements, with or without tarsectomy, demand some percentage of still-intact levator action, otherwise the immediate surgical result will not remain as the permanent result. Levator surgery may be performed at any time after the second year of life. Superior rectus surgery, that is, the Parinaud-Motais principle, is never to be performed as a unilateral procedure. In bilateral levator or superior rectus procedures it is proper to operate on

TABLE 1

SURGICAL INDICATIONS FOR PTOSIS

CONDITION PRESENT	UNILATERAL	BILATERAL
(a) Infants up to the age of three years.	Crutch glasses.	Crutch glasses.
(b) Children three to five years of age.	1. Hunt-Tansley procedure, utilization of occipitofrontalis. 2. Robert's ptosis operation.	1. Hunt-Tansley procedure, utilization of occipitofrontalis. 2. Modification of Motais. 3. Robert's ptosis operation.
(c) Children from five to fifteen years of age.	1. Blaskovics, if levator action is present. 2. Hunt-Tansley. 3. Reese.	1. Blaskovics. 2. Modification of Motais. 3. Reese.
(d) Adults—uncomplicated and with levator action present.	Blaskovics or some modification of levator advancement.	1. Modification of Motais. 2. Blaskovics or some modification of levator advancement.
(e) Adults—bilateral without levator action but with superior rectus intact.		1. Modification of Motais. 2. Resection with advancement of the levator. (See Lindner's treatment.) 3. Reese operation. 4. Fascial sling.
(f) Adults—unilateral without superior rectus or levator action of any degree. Acquired paralysis.	1. Use of fascial sling. (Reese). 2. Hess, direct anchorage to occipitofrontalis. 3. Hunt-Tansley (all are utilization of occipitofrontalis). 4. Everbusch operation.	
(g) Adults—bilateral without superior rectus or levator action of any degree. Acquired paralysis.		1. Resection with advancement of the levator. (See Lindner's treatment.) 2. Use of fascial slings. 3. Bilateral Hess.
(h) Children with acquired paralysis and without accompanying external ophthalmoplegia. Correction depends upon the degree of involvement.	1. Utilization of sutures which form permanent cicatricial tracts (mild degrees). 2. Hunt-Tansley operation. 3. Reese operation. 4. Hess operation.	1. Utilization of sutures which form permanent cicatricial tracts (mild degrees). 2. Hunt-Tansley operation. 3. Bilateral Reese operation. 4. Bilateral Hess operation.
(i) Adults with above condition as in (h), correction depends upon degree of involvement.	1. Utilization of sutures which form permanent cicatricial tracts. 2. Utilization of fascial slings. 3. Reese operation. 4. Hess operation.	1. Utilization of sutures which form permanent cicatricial tracts. 2. Utilization of fascial slings. 3. Bilateral Reese operation. 4. Bilateral Hess operation.
(j) Ptosis with incomplete external ophthalmoplegia.	1. Utilization of sutures which form permanent cicatricial tracts. 2. Crutch glasses. 3. Hess operation. 4. Reese operation.	1. Utilization of sutures which form permanent cicatricial tracts. 2. Crutch glasses. 3. Bilateral Hess operation. 4. Reese operation.
(k) Ptosis with complete ophthalmoplegia.	Crutch glasses.	Crutch glasses.
(l) Cicatricial ptosis and following blepharoplasty.	1. Scar resection and suture. Hess operation. 2. Lid shortening operation (Everbusch operation).	1. Hess operation. 2. Reese operation.
(m) Ptosis following longstanding enucleations.	1. Blasovics or some similar levator muscle procedure. 2. Lid shortening operation. (Everbusch operation).	
(n) Trachomatous ptosis.	1. Tarsus resection with advancement of the levator.	1. Tarsus resection with advancement of the levator.
(o) Ptosis with neurofibromatosis.	1. Tumor resection. 2. Hunt-Tansley with resection of redundant tissue. 3. Hess operation.	

both upper lids at the same time. The latter operation, however, should be put off until after the third year of life, if possible, simply because a three-year-old child is easier to control postoperatively. The postoperative adjustments and demands in superior rectus surgery are, in addition, more exacting than are those following the levator surgery.

The three main principles connected with ptosis surgery are all applicable at various times in ptosis cases; namely, the use of the occipitofrontalis, the use of the superior recti, if they are normal, and a shortening of the levator. No one operation will take care of all these cases. A properly selected procedure will always give better results than any procedure selected unwisely or in error, no matter how brilliantly it may be executed.

In general, ptosis classified under 1, 2, 4, 5 and only occasionally 9, are best corrected by means of a levator advancement, usually with a partial tarsectomy.

The tarsectomy is the advancement portion of a levator procedure, whereas that section of the levator tendon aponeurosis that is removed is the shortening factor in the operation. The latter is always necessary, the former usually so.

In Class 4, dissimilar degrees of ptosis may call for differences in the amount of the tendon resection but if a tarsectomy is to be done, this should be equal in amount in both lids. Cases in Class 5 may not always fit into this category, and some cases in Class 6 (page 149) may occasionally come within its limits.

If no levator action whatsoever is present in these individuals, the surgery to be done must utilize the occipitofrontalis. This is especially important in younger patients. Lindner stated that with complete levator paralysis, after adult life is reached, a levator advancement may be performed in the knowledge that the shortening of the tendon plus the tarsectomy will be followed by a permanent cicatricial support of the formerly ptotic lid. The writer concurs in this opinion.

Ptosis classified under 3, (see page 149), is the ideal situation for the Motais-Parinaud technique. There are several satisfactory modifications of this technique; the one which the author likes best is the Shoemaker modification. Class 6 may occasionally fit into the limits indicated for this operative procedure.

Ptosis cases in Class 6 and in Classes 1, 2, and 4 which have completely paralyzed levators, especially in young children, are to be corrected by either the Gifford operation, the Hunt-Tansley procedure, or by the Reese technique of transplanting fibers of the orbicularis. The presence of any great amount of epicanthus may compel the use of the Gifford technique in which the correction is closer to the canthal angles. After late childhood, one can always resect these cicatricial tracts to the occipitofrontalis and then use any other procedures desired, if indications at that time have changed. The author is partial to the Reese technique. Fascial slings should, however, give similar results.

For ptosis classified under 6, early extraocular muscle surgery is of great importance and should be completed satisfactorily before the ptosis itself is corrected. If not, one may find two difficulties arising: (1) a struggle because of the re-establishment of a diplopia, and (2) some return of the formerly corrected ptosis. Surgery for the lids in Classes 7 and 8 (see pages 149 and 150) should be a complete tenotomy with tenectomy (resection but without reattachment) of the levator, and several weeks later, a Reese transplant of orbicularis fibers to the occipitofrontalis. In performing this tenectomy the sur-

geon must be careful that he also cuts free the lateral horns of the levator where they are attached to the canthal ligaments. The eyes of Class 7 may at times also need this operation; those in Class 8 as well, if the ptosis that remains after the resection of the fibrosed extraocular muscle suggests that fibrosis is also present in the levator muscle and in its aponeurosis.

The condition of the lids in Class 9 (neurofibromatosis) is a true plastic defect of the lid and should be corrected, after removal of the neoplasm, in the greater number of instances, by the Hess technique. It may, however, be possible at times to reattach the levator. If this is the case, the operator may find that he must transplant a piece of ear cartilage into the lid to replace the lost tarsus, otherwise lid notching will develop during elevation of the upper lid.

RECAPITULATION OF PTOSIS SURGERY FOR CONGENITAL PTOSIS

From the standpoint of the available techniques for the correction of congenital ptosis as compared with acquired ptosis, and excluding the operations necessary for the various oculomotor complications, the following procedures are to be utilized as indicated:

If utilization of the occipitofrontalis is contemplated, one must consider the Gifford modification of the Machek operation, the Hunt-Tansley operation, and the Reese orbicularis transplant. The Gifford operation is indicated for complete ptosis wherein epicanthus is a distinctive feature, and for slightly older children; the Reese for high degrees of ptosis and for the jaw-winking reflexes; and the Hunt-Tansley for all other cases within this subdivision of indications. The various other forms of this basic technique, such as Lexner's principles and the Hess introduction of Pagenstecher sutures, the Panas operation, the direct use of fibers from the occipitofrontalis (Robert's technique for the Freeland Fergus operation), Dransart's use of absorbable material, including fascia lata according to Derby, Wiener, and also Dickey's operation, are all proper procedures, but their indications lie in the field of acquired ptosis, especially ptosis connected with other plastic defects of the lids and the tissues immediately adjacent to the lids.

Indications for the utilization of the superior recti muscles are much more restricted, i.e., this method is permissible within narrower limits. The operation is for bilateral conditions only if both superior recti are still present and functioning as such. The modifications of this procedure for congenital ptosis which the author considers as outstanding are Kirby's and Shoemaker's; either may be used, and bilaterally, at the operation. Young's operation is essentially the same as Shoemaker's, though presented later. Dickey's superior rectus fascia lata transplant is not required for congenital ptosis. It has been used, however, by the author in acquired ptosis for the elevation of the reconstructed lids (both flap and free skin graft corrections) and with splendid results on older patients when earlier surgery had unfortunately included the resection of considerable amounts of the skin surface of the lids. Wheeler's procedure has similar indications.

The firm attachment which this operation affords lends itself well to the heavy upper lids in complicated situations. Gifford's recent modification of Dickey's procedure is apparently very valuable. His procedure is to operate through a skin incision, passing the fascia slip under the entire superior rectus muscle rather than utilizing only the middle third. The Wheeler levator superior rectus operation should apply also to this same class of cases. Further, these

two operations might well be considered as reoperation techniques in instances wherein earlier surgery had either failed or yielded insufficient correction, considering always that the superior recti are normal in function. The Trainor operation, also a levator superior rectus procedure, has only simplicity and rapidity of technique to offer, with other more important factors against it; nevertheless its two virtues might indicate its use under not uncommon circumstances, such as the permanent ptosis of cerebrovascular affections in older patients.

When properly selected, levator advancements, with or without resections, have the greatest possibilities in cases of congenital ptosis. Inversely, their usage in acquired ptosis is relatively unimportant, except in two conditions. The ptosis of old enucleations is beautifully corrected by the external route resection, the Everbusch operation, and in partial traumatic section of the levator. This external route operation probably applies best in cases of unilateral acquired ptosis wherein some levator action is still residual; also when such cases are further complicated by other plastic defects not involving the loss of soft tissue or by cicatricial contractions such as: neurofibromatosis, at times; bony defects of the orbital wall; the ptosis of chronic trachoma; and after symblepharon corrections. It can also be used after reoperations wherein a Hess procedure has had to be undone to permit a more satisfactory cosmetic result. There are several modifications of the external route procedure.

A summarization, therefore, of the procedures indicated for ptosis would in general give a classification similar to that in Table 1.

The utilization of one or more procedures in a single case is not at all uncommon. This is especially so when one considers the correction of the complicated forms of ptosis. Cicatricial ptosis, ptosis following long-standing enucleations, trachomatous ptosis, and ptosis with neurofibromatosis are illustrations of these. Frequently a ptosis remains following socket reconstructions and following extensive blepharoplastics. While these could be included in the four just mentioned, it is relevant to call the reader's attention to them as well. The selection of the operation which is to be used for an individual case is perhaps the most important point in ptosis surgery. None of the procedures are especially difficult. If an improper or poorly advised operation is used in a case, the best technique in the performance of the operation will not give as satisfactory results as the proper operation might give even if done with less surgical finesse.

DETAILS IN SURGICAL DEMANDS AND DIAGNOSIS

The general procedures at our command are shortening of the eyelid itself; advancement alone, or advancement with resection of the levator; replacement of the levator by the occipitofrontalis; and the utilization of the superior rectus.

The first of these is usually quite unsatisfactory. Some correction is obtained from a tarsectomy but only in very moderate degrees of ptosis, and in the final analysis this actually is a levator advancement. Simple skin resections are futile for, if sufficient skin is excised to correct the ptosis, lagophthalmos and ectropion will develop. The three remaining procedures are to be seriously considered, but each type of operation is best applicable to certain definite cases. No one of the three lends itself to all of the cases which appear for correction. Further, unilateral ptosis must be handled differently from bilateral ptosis. The ptosis of infants, whether bilateral or unilateral, must be treated quite differently than that of adults or even that of older children.

Cases of ptosis with some levator action still present should be operated on by some method which utilizes this to its fullest extent.

The number of operative procedures which have been presented are innumerable. Some of them are simple and usually of no great value, and others are rather complicated and do not offer unusually good results to compensate for the difficulties present in the technique outlined.

The ptosis of infants must be corrected, especially if bilateral, as soon as the infant begins to walk. The child will throw his head back and develop thereby a faulty posture due to hyperextension of the head, neck, and spine, which is quite distressing to see. Crutch glasses may be used here as a stop-gap. The author has done this with full satisfaction, in this way being able to postpone the ptosis operation until the fourth or fifth year of the infant's life. Unilateral ptosis should not be corrected by the utilization of the superior rectus muscle. The Motais-Parinaud procedure for this is founded on sound physiological and anatomic bases. If the operation is successful for the correction of ptosis, however, a unilateral hypophoria is almost certain to develop. The absence of such hypophoria probably means an unsuccessful ptosis operation. Further, there are other factors connected with the Motais operation which must be considered. Success in its application depends upon the normal integrity of the superior rectus. A large number of cases of congenital ptosis are accompanied by an insufficiency or even paresis of this muscle. Hence, a careful study of the ocular rotations upward must be made before the operation. Terrien recommends perimetric investigation and measurement of the degree of ptosis in every case under consideration. The patient's head is placed on the chin rest of a standard perimeter with the head fixed so it cannot be tilted backward. The lid is then lifted with the finger tip, and the eye follows a luminous point carried upward along the arc of the perimeter, to measure the number of degrees of upward rotation possible from fixation. The observer should be immediately behind the point of light as it moves along the arc of the perimeter, the light from an electric ophthalmoscope with a condenser over the globe is ideal for this, at the same time keeping the reflection of this light in the center of the pupil of the patient. Maximum upward elevation has been reached as soon as the light moves out of the pupillary center. According to Peter, 35 to 40 degrees of upward rotation is normal. The lid is then released and the patient again follows the light upward. This time, however, the reflection of the point of light is kept upon the edge of the lid. The total amount of lid elevation is thus ascertained. It is evident that the amount of upward rotation of the eyeball in degrees must be appreciably greater than the amount of lid elevation in degrees. During this determination the patient must not be permitted to lift the lid by using his occipitofrontalis muscle.

The original Motais procedure calls for the dissection of a central tongue of muscle tissue from the superior rectus, this to be transplanted into the upper lid for a twofold purpose: (1) to hold the upper lid open, and (2) to permit further elevation of the upper lid as the eyeball is rotated upward. It is quite absurd for one to think that this tarsus-superior adhesion functions as a strip of muscle. It can only act as a cicatricial adhesion of the tarsus to the superior rectus. The rationale therefore for some of the more recent modifications of the ptosis operation, as Kirby's and Shoemaker's modifications, is logical. The deepening of the orbitopalpebral fold which occurs with the Motais operation is quite satis-

factory. The eye is rather prone to remain open, however, following the Motais operation during sleep, more so with this operation than with any of the other operations. The reason for it is plain. The upward rotation of the eyeball, which is physiologically present in sleep, must also elevate the adherent lid. Winking also may be rather difficult following this operation. The eyeball ordinarily remains fixed during the process. The attachment of the upper lid is quite dependent upon the movement of the superior rectus.

Surgery applied to the levator is ideal. Two conditions, however, qualify the permissibility of surgery on the levator. Cicatrices, cicatricial contractions, and stab wounds and lacerations which have already sectioned the levator are contraindications. There should be some levator action present to obtain ideal results. The futility of surgery upon the levator as "an all around procedure" lies in the fact that in a great number of cases the muscle is either absolutely inert or so insignificant in its power that satisfactory correction may not occur. Lindner,[1] in his discussion of the Blaskovics operation for ptosis, felt that even in complete paralysis of the levator, the shortening of this muscle plus the tarsectomy gives results which are adequate for the greatest number of cases. Considering our classification in such instances, this must necessarily be a combination of two of the basic principles mentioned: (1) shortening of the lid itself, and (2) surgery upon the levator.

Surgery which utilizes the occipitofrontalis has no effect on the levator palpebrae superioris. As Beard[2] states:

> "The frontalis owes its power of lifting the eyebrow to the fact that its attachment is essential to the skin; hence, procedures that call for deep or extreme incisions and other traumatisms in the superior ciliary region, must result in scars that inevitably limit the natural movement of the parts."

The utilization of the occipitofrontalis, when properly used and with the proper indications, is a very nice procedure. For unilateral ptosis, however, it does result in a peculiar facial grimace not wholly beautiful to view. Further, the occipitofrontalis is rather likely to contract bilaterally in the largest number of cases. Hence, with unilateral ptosis the palpebral fissure of the normal eye would be widened. Still this fault, while unfortunately present, does not contraindicate the utilization of the occipitofrontalis when proper indications are present.

SURGICAL CORRECTION OF ACQUIRED PTOSIS

The correction of acquired ptosis, as it applies to Class 1 (see page 151), may be technically more difficult than is that of congenital ptosis, but generally speaking, the rules for our guidance are simpler. A completely severed levator must be replaced, functionally, by utilizing the action of the occipitofrontalis, as with a Reese transplant. When the orbicularis muscle is destroyed or seriously impaired, fascia lata transplants can be substituted with almost equal functional satisfaction, but less so cosmetically. A partially sectioned levator can be repaired rather readily because the intact portions, when uncovered surgically, guide one to the edges of the traumatic section for reattachment. Cicatrices, when released, should be sutured in anatomic layers, one suture line to be offset from the other, to permit maximum action of the remaining levator and orbicularis fibers. Cul-de-sac defects, after scar removal, must be replaced with mucous membrane grafts. Deformed tarsal plates can be removed

1. Klin, Monatsbl. f. Augenh; 93, 1, July, 1934.
2. Ophth. Surg., 2d ed., P. Blakiston's Son and Co., p. 246.

at the time of a levator correction or adjustment. Socket reconstructions should spare the levator if it is still intact.

In many of these cases wherein the levator can still be utilized, it seems as if the external approach to this muscle, rather than the superior cul-de-sac approach, gives better end results. Adhesions and other accompanying deformities can be removed more readily and the varying degrees of correction necessary estimated thereafter. It is important to remember, however, that the external approach to the levator tends to limit the total excursions of the lid even with ideal indications, and after most satisfactory surgical results. The Hess procedure has its optimum indications in the correction of ptosis connected with any type of lid reconstruction. Such lids tend to be thicker than the normal, motility is poor, at the best, and orbicularis fibers are deficient. While this surgical procedure affects lid excursions by reasons of the adhesions formed, this fault is of least importance and least serious in these cases.

Correction for the ptosis of Class 3 (Peripheral, Inflammatory, or Neoplastic, Intraorbital Pathology) presupposes the removal, if possible, of the underlying orbital condition, and following this recovery, correction is achieved by those rules just outlined.

Correction for the ptosis of Class 4 (Atonic Ptosis) is largely a matter of levator resection combined with the resection of the atonic skin. In addition, the skin is to be quilted to the anterior surface of the tarsal plate to prevent a recurrence of the basic condition.

Class 5. The ptosis of myasthenia gravis is not a surgical condition. The removal of the thymic tumor will correct thymic myasthenia. Medical treatment for thyrotoxic ptosis is frequently of no avail and that patient will need an orbicularis transplant for correction. Ptosis, when accompanied by an acquired paralysis of upward gaze, cannot be corrected surgically. If that is done, the cornea will be exposed during sleep. Because of this lack of upward movement, an exposure keratitis will certainly develop, and vision may be lost in that eye. Such cases must be corrected, during their waking hours, by the use of crutch glasses.

Class 6. The ptosis of cervical sympathetic paralysis, when this is a permanent condition, is easily corrected by a levator advancement, using the transconjunctival route. The partial tarsectomy, usually done for the congenital form of ptosis, is to be omitted to prevent over-correction.

Classes 2 and 7. (Ptosis from 3rd Nerve Involvement). These forms of ptosis, when permanent, are to be corrected by orbicularis or fascia lata transplants, i.e. to utilize the action of the occipitofrontalis. All surgery, however, for the accompanying oculomotor paralyses should be completed first to minimize diplopia, in fact, to correct it before the lid itself is lifted. The rules for the accompanying paralytic squint are well-known and need no mention here.

Class 8. The ptosis of the pseudo-Graefe syndrome is to be converted into a completely paralytic form of ptosis by a levator myectomy and tenotomy. This will correct that distressing variability present under different circumstances. Following this, the surgery for the accompanying ocular paralyses can be completed and after that the case brought to a functional recovery by an orbicularis transplant.

Class 9. The ptosis of hysteria has no surgical relationship.

NONSURGICAL AID

The consideration of crutch glasses for the correction of nonsurgical forms of ptosis is important. The ptosis of a complete external ophthalmoplegia cannot be corrected surgically, because the corneal exposure, now constant due to the inability of upward gaze, especially during sleep, would result in an exposure keratitis. Other similar forms of nonsurgical ptosis are equally well handled by these glasses.

The best type of crutch glasses, at present, are those with a single end spring, rather than a loop, the outer end free, and with the temples hinged to the frame with a flat leaf-like spring at a right angle to the usual temple action. This will permit an easier and more comfortable wearing of the crutch spectacles in that the patient can close his eyelids, while wearing the spectacles, to blink, and the springs on the temples will reopen automatically and re-elevate the lids to their former position with but little manual adjustment on the part of the patient.

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Editorials

The Annual Convention

Inability to hold the annual convention of the Academy in 1945 because of war-time restrictions in transportation and hotel facilities was the cause of the first interruption in the series of scientific assemblies of the society since its organization in 1896. The fiftieth annual meeting was planned, as have been the meetings preceding it, to bring together for a few days the fellows of the society for a program of scientific papers and demonstrations and for a course of didactic lectures, conferences and discussions on matters of practical value to the practitioners of ophthalmology, otolaryngology and maxillofacial plastic surgery. Although fifty years constitutes an appreciable age for a medical society, the fact that the Academy was fifty years old was not the outstanding interest. The Academy has always stood for one thing only—the scientific advancement of the medical specialties and the education of those who practice the specialties and those who are preparing themselves to enter special practice.

The maintenance of standards of practice was assured by the Academy when in 1915 it sponsored the formation of the first of the medical specialty boards, in 1921 when it established the first courses in instruction to be sponsored by a medical society, and again in 1940 when it pioneered in the field of extracurricular graduate study in medicine by establishing the Home Study Courses. The accomplishments of the Academy over the past fifty years might well have been reviewed and made the subject for ceremonial exercises, but that celebration was a war casualty.

The Academy begins its second half century facing the greatest challenge of its existence—the responsibility of maintaining standards of practice, of education and scientific advancement during the troubled years of social and political unrest that lie ahead. The Academy has a single purpose—education. Its faculty is composed of outstanding practitioners of medicine who give unselfishly of their time and talent for the education of their colleagues and guidance of students. Medical centers and institutions of re-

search find in the Academy an outlet for their activities and an appreciative audience of certificated specialists who can understand what it's all about.

No more fitting celebration of the rounding out of a half century of progress could be planned than the making of the 1946 convention the best of its series. The program committee has instituted some significant changes that, it is hoped, will make it possible for each and every member of the Academy to give more and get more than ever before. Transportation and hotel facilities will be better than they were before the war-time restrictions were instituted. The next convention will make little celebration of its birthday, but will provide the best scientific program of its existence.

The Hotel Situation

In looking forward to the October meeting, the first since the lifting of war-time restrictions on hotels and transportation, the Academy can once again experience a freedom of activities not known in recent years. The selection of the Palmer House as the meeting place for the Academy during the war years was a fortunate choice for without the facilities afforded by such a large and well-staffed hotel, our programs would have had to be considerably restricted.

To appreciate the difficulties under which hotel service was rendered during times when government control, curtailed staff, food restriction, and an unprecedented demand for rooms made management a headache, one had only to sit in the office of the promotion department, for all complaints went directly to that office. One heard complaints; oh yes! There were difficulties in room assignment, room service, food service, telephone service, elevator service. The hotel was filled to capacity and the shortage of men and maids was acute. But we were able to carry out our program.

Now things are different. Most restrictions are lifted. The Palmer House is under new management and as fast as possible operating improvements are being established. The same helpful attitude toward the Academy is maintained and we are assured of the valuable service of "Dick" Collison whose interest in the Academy convention is unsurpassed by that of any member.

The allotment of rooms in Chicago hotels for Academy members and guests for next October will be greater than ever before and the hotels request that prospective guests make reservations now. In anticipation of a large attendance, the following recommendations are made for the convenience of guests.

1. Write at once for room reservation, addressing the Reservation Department of the Palmer House.
2. State whether you require a single room, double with one bed or twin beds, or suite.
3. Whenever possible guests are requested to plan to occupy all beds—double and twin bedded rooms should not be requested for single occupancy.
4. In order that a greater number of Academy members may be accommodated at the Palmer House, please where possible arrange to share a twin bedroom with another doctor you know. As in the past many from your community will attend.
5. Give exact date and time of your arrival and the date and time of your departure.
6. Plan to arrive Saturday, the 12th, or Sunday, the 13th. A few can be accepted on Friday, the 11th.
7. Rooms tentatively earmarked for Academy members will be reserved by the Palmer House till two days before the convention; by other hotels till thirty days before the conven-

tion. If you expect to stay at an hotel other than the Palmer House, make your reservation before September 13th.

8. Exhibitors are requested to apply for not more than one room or one suite in the Palmer House so that more of our members can be accommodated in the headquarters hotel.
9. Secure transportation tickets when you make travel reservations.

The Academy convention can be held only in an hotel with unusual facilities and then only with the full cooperation of a willing staff. The Palmer House has made it possible for us to hold our usual type of convention during the war years. Let's cooperate and smooth out the remaining rough spots.

W. L. BENEDICT, M.D.
Executive Secretary-Treasurer

ALUMNI DINNERS

Groups contemplating Alumni Dinners to be held on Monday evening, October 14, 1946, are requested to advise the Executive Secretary at once, giving the name of the group, the name and address of the secretary of the group, and the expected attendance.

W. L. BENEDICT, M.D.,
Executive Secretary-Treasurer

AN ANALYSIS OF PROFESSIONAL EYE CARE AND INDUSTRIAL EFFICIENCY

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LAFAYETTE, INDIANA

THE present study is an analysis of (A) the relation between visual skills and production; and (B), the effect on production of eye care provided by normal community facilities in the case of one industrial concern.* The basis of productive efficiency and visual standards for the job was based on hourly earning rates.

A group of 45 hosiery pairing workers was tested for efficiency in a number of visual skills, the test scores being recorded and then plotted in profile by the method set forth by Tiffin.

Hosiery pairing is primarily a visual inspection job and as such requires a high degree of visual skill. Stockings are arranged in pairs so that they will correspond in color, size, length and texture. The stockings are spread on a pairing table and the worker visually examines them for imperfections and segregates the imperfect ones. Selecting by visual examination two stockings which match for shade, she lays one on top of the other to ascertain if length of welt, leg and foot are the same. The paired stockings are put aside for packaging.

For each of the 45 workers tested, average hourly earning rates were available. From these data an average earning ability for the entire group was computed. Each individual's visual skills were now compared with this average. The workers were then divided into two groups, those whose earning rate was above the average and those whose earning rate was below the average.

The vision test scores of each worker were analyzed and those workers who passed all the standards were segregated into one group while those who failed one or more of the standards were placed in another group. A comparison was then made for those workers who passed the visual standards and those workers who failed the visual standards. The results are shown in the left hand columns of Table 1.

From Table 1 it will be seen that of those workers who passed the visual standards 71 per cent were above average in earning rate, while of those who failed the visual standards only 24 per cent were above average in earning rate. It is apparent from this table that visual efficiency is an important factor for success on the job of hosiery pairing.

Workers who failed the standards were notified in writing of the fact that their visual skills were not all that they should be in terms of the visual demands of the job. They were urged to consult the professional eye doctor of their choice in the community. Fourteen workers received such notification and, during the following year, nine of these workers received professional eye care and obtained either new lenses or an original pair of lenses. In addition eight workers who passed the visual standards but who had had their attention called to the importance of vision also received professional eye care.

Approximately one year after the original testing the hosiery pairing department was tested again. During this intervening year 31 workers remained on the job; 14 workers had left the job; and 6 new workers had been added.

1. Assistant Professor of Industrial Psychology, Purdue University.

* We wish to express our appreciation to the Real Silk Hosiery Mills, Incorporated, Indianapolis, Indiana, for their cooperation in making available the data in this study.

TESTS AND PRODUCTION RECORDS

	1944		1945	
	Pass Visual Standards	*Fail Visual Standards*	*Pass Visual Standards*	*Fail Visual Standards*
Above Average Production	17	5	18	3
	71%	24%	67%	30%
Below Average Production	7	16	9	7
	30%	76%	33%	70%

TABLE 1

Showing relationship between visual standards and production records over a one year period.

New average hourly earning figures were obtained for each of the 37 workers in the new testing group. The same visual standards established for the original group were applied to the new group and the new average hourly earning figures of the workers who passed the standard were compared with those of the workers who failed the standards. The results are shown in the right hand columns of Table 1.

It will be seen that on the 1945 tests 67 per cent of the workers who passed the visual standards were above average in earning rate while only 30 per cent of those who failed the visual standards were above average in earning rate. It is thus seen that the visual standards found effective for the job of hosiery pairing in 1944 are still effective when applied one year later. This study shows that visual standards for this industrial job are not an artifact but represent a minimum degree of skill for best chance for success on the job. These standards were found to be valid over a one year period.

A further study of this group reveals that, when they are employed, visual standards identify those workers whose visual skills are below the level most desirable for success on the job. Professional eye care which results in an improvement in visual skills will also result in an improvement in industrial production. For example:

Of the original group of hosiery pairers 31 remained on the job over the year period and were present for both tests. Of these 31 workers, 17 had professional eye care during the year and 14 had no eye care during the year.

Of the 17 workers who had had professional eye care during the year the average score on each of the original tests was computed and these scores used to construct a composite profile representing the group. The same data were computed for the second series of tests. These two profiles are shown in Figure 1. (The shaded areas represent scores not desirable for the job of hosiery pairer.)

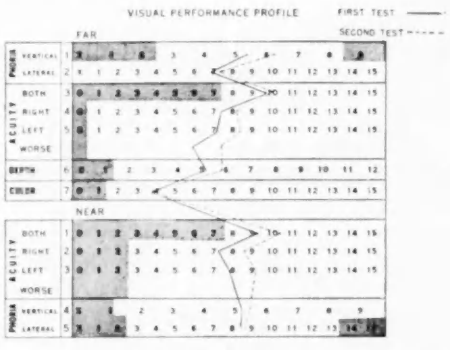

FIG. 1—Composite profile showing change in visual skills of 17 workers having eye care.

It will be seen that the retest average scores indicate a general improvement in visual skills for the group as a whole. This improvement is particularly

marked in the acuities. It should be noted that the both eye acuities (near and far) are the most significant tests in determining the job standard. After the cut-off point at a score of seven is reached, a further increase in acuity is associated with a continued increase in efficiency.

Similar data were computed for the 14 workers who received no professional eye care during the year. The profiles for this group are shown in Figure 2.

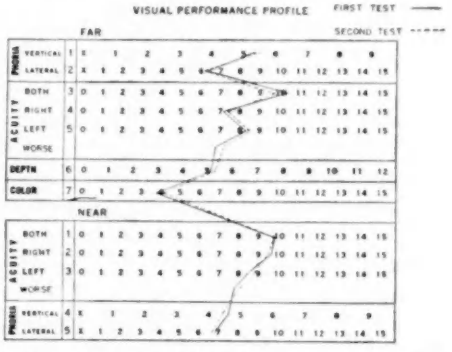

FIG. 2—Composite Profile showing changes in visual skills of 14 workers having no eye care.

It will be seen from this Figure that no appreciable change has occurred in the test scores of this group during the year.

Comparing these two Figures reveals the fact that professional eye care has an appreciable favorable effect upon visual skills.

When the test scores of the hosiery pairers were compared with the visual standards established for the job, 14 workers were found whose visual skills did not fully meet the requirements of the standards. These workers were notified of this fact and were urged to seek the assistance of the eye doctor of their choice in the community. As a result 9 of these workers received eye care while 5 did not.

The changes in earning rate over the year period are shown in the upper half of Figure 3. In this figure the lowest average earning rate found has been taken as an arbitrary base with which all other averages are compared. For the group who received professional eye care the 1945 earning rate was 12.67¢ per hour higher than the 1944 rate. For the group who received no professional eye care, however, the 1945 rate was only 9.20¢ per hour higher than the 1944 rate.

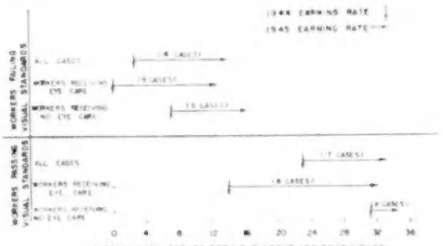
1944 EARNING RATE
1945 EARNING RATE
WORKERS FAILING VISUAL STANDARDS
ALL CASES
WORKERS RECEIVING EYE CARE
WORKERS RECEIVING NO EYE CARE
WORKERS PASSING VISUAL STANDARDS
EARNING RATE (CENTS PER HOUR ABOVE ARBITRARY BASE)

FIG. 3—Showing the earning rate at the beginning and end of a one year period for those hosiery pairers who received eye care and those who did not.

In 1944 the group who later received eye care had an earning rate 7¢ per hour less than the earning rate of the group who had no eye care. In 1945, however, the earning rate of the eye care group was 3.53¢ per hour below that of the no eye care group.

It has been frequently noted that an industrial vision testing program stimulates a general interest in eye care even among those patients who are not specifically urged to obtain professional aid. In the present group of workers there were 8 cases who sought professional aid even though their visual skills fell within the range recommended by the visual standards for the job.

In the lower half of Figure 3 the change in earning rate for these workers is compared with the change for workers whose visual skills were considered most adequate for the job but who did not receive eye care. Those workers who received eye care showed an increase in earning rate of 17.50¢ per hour during the year while those workers who received no eye care

showed an increase in earning rate of only 3.00¢ per hour.

The group who sought professional aid showed an earning rate in 1944 of 17.08¢ per hour lower than that of the group which did not seek professional aid. In 1945, however, the eye care group had an earning rate only 2.58¢ per hour lower than the no eye care group—a gain after eye care of 14.5¢.

Among the group failing the visual standards for the job and also among the group passing these standards, those workers who sought professional aid showed a lower earning rate in 1944 than those workers who did not seek professional aid. This fact would suggest that there is a natural selection factor among those workers who seek professional aid. Those workers in each group whose earning rate is the lowest for their group are the ones who seek professional aid, evidently showing that inadequate vision adversely affects earnings.

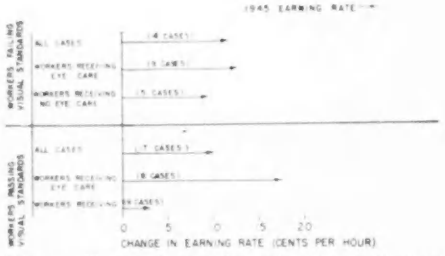

FIG. 4—Changes in earning rate over a one year period for hosiery pairers having eye care and those having no eye care.

Figure 4 shows the change in earning rate for the groups receiving eye care and the groups receiving no eye care. Among the workers who failed the visual standards, those who received eye care increased their earning rate 3.47¢ per hour more than those who received no eye care. Among the workers who passed the visual standards, those who received eye care increased their earnings 14.5¢ per hour more than the no eye care group.

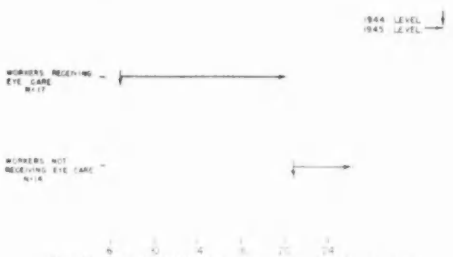
1944 LEVEL
1945 LEVEL
WORKERS RECEIVING EYE CARE
WORKERS NOT RECEIVING EYE CARE
PRODUCTION LEVEL (CENTS PER HOUR EARNED ABOVE AN ARBITRARY BASE)

FIG. 5—Effect of eye care upon increase in production level after one year.

Figure 5 shows the change in earning rate for all cases who received eye care compared with similar changes for all cases who received no eye care.

The group who received eye care had an average earning rate of 6.7¢ per hour above the arbitrary base. One year later their average earning rate was 21.7¢ per hour above the base. A difference of 15.0¢!

The group who had no eye care during the year had an average earning rate of 12.6¢ per hour above the arbitrary base. One year later this group showed an average earning rate of 17.9¢ per hour above the base. An increase of 5.3¢.

Although both groups increase, the group receiving eye care increases approximately three times as much as the group having no eye care. This proportionately greater increase among those having eye care indicates that such professional aid is directly reflected in increased efficiency on the job.

SUMMARY AND CONCLUSIONS

A group of hosiery pairers was tested for visual efficiency; in this series of cases the testing instrument was the Ortho-Rater. One year later the group was tested again. Thirty-one workers remained the the job during the entire period of the study and were tested twice. Of these 31 workers 17 had eye care during the year. Visual standards were established for the job and the efficiency of those workers passing the standards

was compared with that of the workers failing the standards by analysis of their average hourly earnings. Similarly, any change in efficiency of those workers having eye care was compared with that of the workers having no eye care.

The following conclusions are drawn:

1. Visual standards for industrial efficiency on jobs such as hosiery pairing are stable over at least a one year period.
2. Professional eye care obtained through the usual channels of private practice resulted in definite improvement in visual skills.
3. Professional eye care is markedly effective in increasing efficiency of industrial workers as measured by average hourly earning rates.

VISION TESTING IN AN AUTOMOTIVE ACCESSORIES INDUSTRY

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THE INDUSTRIAL visual testing program described in this paper has been in operation for approximately a year and a half. During this time more than four thousand individuals have been tested. It is hoped that the experience of this company will be of interest to the medical profession as an example of one approach to the solution of the visual problems encountered in a manufacturing industry.

The importance of good vision was forcibly impressed upon management by the high precision requirements of war production. For example, at every step in the manufacture of a bombsight very accurate workmanship was demanded, whether in the fabrication of parts or in their assembly. Close limits had to be maintained through the use of precision measuring instruments, and careful visual inspection was required to detect minute flaws and imperfections. Very slight defects could seriously impair the accuracy of the bombsight, rendering it useless for its purpose — high altitude bombing.

While problems of war production sharply focussed attention upon vision, it was equally evident that good eyesight was essential to the efficient manufacture of automotive accessories, the normal peacetime products of this plant. Fuel pumps, air cleaners, spark-plugs, speedometers, gas and oil gauges have to meet rigid specifications in order to function effectively. Each of these products is composed of a number of small parts which must be accurately machined and carefully assembled. Throughout the manufacturing process visual skills are required in order to maintain high quality standards.

MEASURING VISUAL SKILLS

Recognition of the critical role of vision led management to seek some means of determining the adequacy of an employee's vision for the job demands. It was apparent that the traditional wall chart was of limited value as a measure of the essential visual skills—limited not only in accuracy but also in comprehensiveness. Accurate recordings of visual acuity are practically impossible because of the difficulty in controlling factors such as lighting, memorizing, clever cheating, etc. At best the wall chart measures only a few of the requisite visual skills, giving no indication of near acuity which is of basic importance in many industrial jobs.

The search for more adequate technics for measuring visual skills resulted in the adoption of mass testing by instrumentation which includes other

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necessary tests in addition to a more exact visual acuity determination. In our experience this series contains twelve tests of visual functions found experimentally[2] to be important for successful performance in industrial work. The tests are as follows:

At the optical equivalent of 26 feet:

1. Vertical phoria
2. Lateral phoria
3. Acuity, both eyes
4. Acuity, right eye
5. Acuity, left eye
6. Depth perception
7. Color discrimination

At the optical equivalent of 13 inches:

1. Acuity, both eyes
2. Acuity, right eye
3. Acuity, left eye
4. Vertical phoria
5. Lateral phoria

These tests provide rapid and accurate measurement of visual skills, but they are not diagnostic in the clinical sense and cannot be used for prescribing correction or treatment. They serve only to identify individuals whose visual skills are not adequate for the job in one or more ways. Once identified as lacking in a needed skill, the employee is referred to his local specialist for a professional examination to determine the causes of the condition and to prescribe correction or treatment if possible.

ADMINISTRATION OF THE TESTS

The battery tests are so designed that they can be administered by a trained layman or nurse, following adequate instruction. During training the technician should be schooled thoroughly not only in the administration of the instrument chosen, but should also be taught his limitations and his dependence upon the ophthalmic profession for diagnosis and treatment.

2. Tiffin, Joseph, and Wirt, S. Edgar: The Importance of Visual Skills for Adequate Job Performance in Industry. *J. of Consulting Psychology*, Vol. VIII, No. 2, pp. 80-89, 1944.

In this plant the primary responsibility for the industrial vision program lies with the Medical Director. The actual administration of the tests, however, is done by well-trained technicians under the supervision of the Industrial Psychologist attached to the Personnel Staff. The psychologist is responsible for the statistical analysis of test results, the scheduling of visual surveys in the plant, and the building of visual standards for specific jobs. The industrial physician deals with individual employees presenting visual problems, referring them where necessary to the proper professional service for rehabilitation.

THE TESTING PROGRAM

Visual testing functions as an integral unit of the over-all scientific selection program whose broad objective is the promotion of better job adjustment and performance. Hence the visual fact-finding service has not been limited to any particular interest, such as eye injury cases or testing new employees, but rather is being used in the solution of any problem where vision may presumably be a factor. The scope of this service is indicated by the following review of its current uses.

In the *Medical Department* new employees are given the full battery of tests as part of the pre-employment examination. Older employees who report to the hospital with visual complaints are routinely tested, as are employees returning from sick leave. In cases of eye injury the tests provide an accurate indication of the status of visual skills, and, where a previous test record is available, an indication of the extent of functional disability.

The *Safety Department* uses the full battery of tests in every phase of its eye program. All new employees are required to meet a minimum standard of far acuity deemed essential from the safety standpoint. Truck drivers and

crane operators are tested periodically to detect any changes in visual skills, particularly in far acuity and depth perception. A further use of the test results is to indicate whether prescription or plano lenses should be used in safety glasses. If an employee's vision is below standard for his job, he is sent to his eye specialist for an examination so that his safety glasses can be ground to his prescription.

In the *Employment Office* the visual skills battery constitutes an important part of the scientific selection procedures now in use. In addition to visual skills the individual's special aptitudes, physical characteristics, personality traits, training, and work experience are carefully evaluated in making a job assignment. A gradually accumulating file of visual job standards is being developed to assist in matching the individual to the job.

In the *Manufacturing* and *Inspection* divisions visual skills have shown a definite relationship to job performance. The procedure used in determining the extent of this relationship and in setting visual job standards may be illustrated by describing a study of automotive spark-plug assembly operators. This work is repetitive, requiring the bimanual manipulation of small parts carried past the operator on a conveyor. As a first step in the study, all employees were rated by their supervisors on the basis of their performance on the job. Then the battery of tests was administered to the entire department. For each of the twelve visual tests the scores of the better operators were compared with those of the poorer operators. It was found that as a group the better operators scored consistently higher in depth perception, in all tests of near acuity, and in near lateral phoria. From an analysis of the distribution of the scores a desirable skill profile for the job was established. When the records were classified according to those who met all visual requirements and those who did not, it was found that 75 per cent of those meeting the visual standards were rated as good operators, whereas only 33 per cent of those not meeting the standard were considered good.

Employees whose vision is not up to standard for their job are interviewed by the Medical Director who explains the significance of the test results and advises the employee to arrange for an eye examination. The employee is provided with a copy of his visual skills test record on which the job standards are indicated. He is also given a visual analysis of the job which can be presented to his specialist. Since the recommendation for a professional eye examination is made to the employee in terms of the personal benefits he will receive, a very favorable response is usually obtained. In the few cases where resistance is encountered, or where vision can not be brought up to standard for the job, an effort is made to place the individual on work where he will not be handicapped from the visual standpoint.

It is recognized by all concerned that a close working relationship with local eye specialists is essential to the success of this program. At the beginning of the project a lecture-demonstration was presented to the County Medical Society. It was emphasized strongly that the eye testing program was intended to complement and not replace the work of the eye specialist. The interest shown at this meeting has made possible a cooperative enterprise mutually satisfactory to industry and the profession.

EVALUATION OF THE VISUAL TESTING PROGRAM

Although no attempt has yet been made to evaluate systematically the effectiveness of the eye testing program, there are a number of indications that it is proving to be of practical value both to management and to employees. In ad-

dition to the rehabilitation of employees whose vision is below standard, it has been helpful to supervision to locate those employees whose visual skills are superior. If they have the necessary job knowledge and skill, they can be placed on jobs where the visual demands are unusually great. The battery test is especially well adapted for this purpose, since it is designed to discriminate at the upper ranges of acuity to a fine degree.

In the jobs where visual standards have been developed and utilized in the placement of new employees reduced training time and better job performance have been noted. Our experience has clearly indicated that the vision of new employees may be satisfactory for one job and not for another. In many instances employees whose far acuity is limited have made excellent operators on near point jobs. Rather than exclude certain individuals because they do not meet an arbitrary "normal" standard of far acuity, it is now possible to place them on jobs suited to their skills.

A valuable by-product of this program has been the increased awareness of visual problems by employees, as well as by supervisors. Frequently employees have voluntarily requested the tests. For example, there were so many requests from the engineering department that it was necessary to set up a special testing program for this department. Many cases could be cited to show the benefits that accrue to the employees themselves when placed on the right job or when visual defects are brought to their attention. The following example is typical.

Because of changes in production schedules it was necessary to transfer a middle-aged woman employee from machine work to final inspection of spark-plugs. On the latter job minute flaws, such as cracks, chips, and burrs, must be rapidly detected. Although this employee took pride in her excellent far acuity and had never worn glasses, she seemed unable to learn the new job and became quite upset about it. The visual skills tests indicated that her near acuity was below standard for this work. A professional eye examination was recommended. When properly fitted with glasses, she easily met the visual requirements of the job and soon became a satisfactory worker. She is now well adjusted to this work.

Enthusiastic reports have been received from employees who have participated in the visual testing program. They have stressed not only reduction in eye fatigue, but also the satisfaction which comes from better job performance. Visual complaints have been materially reduced, and a general improvement in morale has been noted.

SUMMARY

The purpose of this paper is to describe the industrial visual testing program now in operation in a large automotive accessories industry. Problems of war production drew attention to the significant role of vision in many manufacturing processes, and led to an interest in promoting better job adjustment from the visual standpoint.

Recognition of the limitations of the traditional wall chart as a measure of visual skills resulted in the adoption of mass testing by instrumentation, which includes twelve tests of visual functions found to be important in industrial work. Although not diagnostic in the clinical sense these tests do identify employees whose visual skills are inadequate for the job. Once identified these individuals are referred to local eye specialists for professional examination and treatment.

The industrial vision program is under the general supervision of the Medical Director. The tests are administered by well-trained technicians directly responsible to the Industrial Psychologist who conducts visual surveys, analyzes test results, and establishes visual job standards. Referral for professional care is made through the medical department.

The visual fact-finding service, operating as a unit of the scientific selection program, is plant-wide in scope. In the medical department the visual skills battery of tests is part of the pre-employment examination. Employees presenting visual complaints, including eye injury cases, are routinely tested. The safety department uses the tests in every phase of its eye program. The employment office includes a visual appraisal as part of the scientific procedures utilized in job placement. In the manufacturing and inspection divisions a definite relationship has been found between visual skills and job performance. Through statistical comparisions of the scores of good and poor operators visual standards have been established for a number of jobs.

Although a systematic evaluation of the eye testing program has not yet been made, its practical value has been evident to both management and employees. It is effective not only in the rehabilitation and conservation of eyesight, but also in revealing unusual visual qualifications. Proper placement of new employees has resulted in reduced training time and better job performance. A valuable by-product has been a generally increased awareness of visual problems. Many employees have voluntarily requested the tests. The benefits to employees include reduction in eye fatigue, improved health, better morale, and greater job satisfaction.

VISUAL SKILLS ANALYZED BRINGS RESULTS; A PLANT EXPERIENCE

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SEVERAL YEARS ago we inaugurated an industrial vision program. At that time, it was imperative that we select operators for certain critical government jobs requiring unusual degrees of visual skill. Preliminary tests by an ophthalmologist revealed that employees with certain types of vision make better operators than employees who do not have these types. Because of the large volume of testing necessary and the premium existing on ophthalmologists' time, we were required to seek some other practical means of carrying out our testing program.

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Fortunately, it was at this time that we became familiar with the advances made in the field of industrial vision service. This included the use of an optical instrument which enabled us to conduct our testing program in a practical manner. By the use of a battery of twelve tests we were able to determine certain visual skills which are related to visual requirements in industry. Such mass testing instruments are not used for either diagnosis or refraction.

In addition to this instrument, we used a hand perimeter for determining visual fields which we recorded. We also used pseudo-isochromatic plates for testing color perception.

Our initial surveys were made of those critical jobs in which visual complaints seemed to be disturbing maximum production. Where practical the testing programs are conducted in the shop, thus reducing distraction of workers to a minimum. Supervisors furnished us objective evaluations of these employees in terms of general job effectiveness. Consistently, superior operators possessed the same visual skills. Correlating our test results with these employee ratings resulted in setting the standards of vision which we now use in our pre-placement examinations. The following examples illustrate how this service helped break some of our "visual bottlenecks".

Labor turnover was particularly high on an inspection job which involved the

use of a 15 power binocular microscope. Three out of every eight employees placed on this job had to be transferred to other work. We found there was a direct correlation between the visual skills of those employees who were successful at this work and the lack of these same visual skills in those employees who had failed. Using the visual standards obtained by this survey, we hand-picked 58 employees for this work. Out of these 58 employees only 2 had to be reassigned to other work. We believe that this striking difference in labor turnover is due partly because the picked operators had the visual ability to do the job and experienced no eye discomfort, and partly because our pre-placement tests relieved any apprehension these employees may have had about their "eyesight being ruined".

Another example of the value of considering visual skills in order to assure proper placement was demonstrated in our Blue Print Department. Here it was necessary to assemble many different complicated blue prints of important war-time materiel which had to be distributed in certain combinations to various locations. Unless this was done without error, considerable confusion would result. Here again we found that the employees who made mistakes in assembling proper blue prints had definite visual difficulties. Employees selected on the basis of their visual skills (and those whose vision was brought up to our standard with the aid of ophthalmic services) performed the job with a much lower percentage of errors.

Our visual program has rapidly expanded. In addition to conducting surveys and making pre-placement examinations, we are also using this program and approach to test all applicants. We are performing periodic occupational examinations on chauffeurs, truck and jitney drivers, and crane and elevator operators. We use this method of testing to obtain useful data for our medical staff concerning those employees with visual complaints. All employees whose test scores indicate they might be helped by ophthalmic services are referred to a plant physician. He suggests they consult their family doctor regarding referral to an ophthalmologist. Pertinent data are furnished on request.

Such an industrial vision program has had tangible results. Complaints of eyestrain on visually demanding jobs have markedly diminished. Employees selected for these jobs with the aid of our program have proven more satisfactory inasmuch as training time and labor turnover were reduced. When, because of the scarcity of applicants, it was necessary to place employees on these jobs who did not meet our visual standards, they failed to do good work and had to be subsequently replaced. The program has aided in making employees eye-conscious and many of them have sought long neglected ophthalmic services during and following our surveys. Supervisors and employees appear to accept our visual program with enthusiasm.

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INTRODUCTORY STATEMENT

The Joint Committee of Industrial Ophthalmology under considerable strain during the War Years is mobilizing itself for increased activity in selecting information for ophthalmologists interested in industrial eye work of all kinds. Management has been stimulated (a bit too vigorously at this stage) by government programs, the WPB in particular, and by the excellent educational work of the National Society for the Prevention of Blindness. The time is already at hand when Management will insist *that the ophthalmologists who are their consultants for eye injuries will also be their consultants for* all *their industrial eye problems, such as:*

(1) *Providing proper refractive correction for special work distances (either in occupational glasses or in prescription goggles, depending on the hazards).*

(2) *Studying types of protection indicated for special chemicals and toxic dangers.*

(3) *Advice on how best to discover the worker with either clinical visual defects and/or an inadequate combination of visual skills — which means an understanding of mass testing and other allied problems.*

With the thought in mind that most ophthalmologists have little access to articles on visual eye problems appearing in periodicals other than the medical literature, the Joint Committee is going to publish a continuous bibliography in each issue of the TRANSACTIONS. *In this issue it covers a good deal of territory and if kept in the files of ophthalmologists interested in industrial eye work, should provide a ready reference file. Perhaps later this bibliography can be expanded to include short abstracts of articles listed. The periodicals in which these articles appear, (Personnel journals, Management journals, Applied Psychology journals, Safety journals, and others) are usually easily procurable. If any ophthalmologist has difficulty getting material for study in some phase of industrial ophthalmological problems, the Joint Committee, through its secretary, will always be glad to assist in any way possible.*

HEDWIG S. KUHN, M.D.
Secretary, Joint Committee of Industrial Ophthalmology

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A SIMPLE METHOD OF TAKING EARMOLD IMPRESSIONS

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I

Otolaryngologists are assuming an increasingly active role in guiding patients to the selection of hearing aids. In this connection, the otolaryngologist's influence is best exerted in five ways.

1. The physician can determine whether a hearing aid is advisable for the patient. Here the physician must weigh both medical and socio-economic considerations.
2. The physician can prepare the patient for the actual trial of hearing aids. The patient can be instructed on the effects he may expect his hearing loss to have on the results he will achieve with a good instrument.
3. The physician can demand that a satisfactory earmold insert (earpiece)[1] be secured in advance of the actual trial of instruments. The earpiece must be one which fits the individual contours of the patient's auricle and external meatus. To achieve such an earpiece an impression must be made of the patient's external ear. *The physician can make the impression in his own office*, thus, assuring that the procedure incorporates necessary medical precautions.
4. The physician can conduct a simple program for the actual selection of the patient's hearing aid.[2] The patient can thus be guarded against many of the mistakes often resulting from random trial-and-error selection in an environment of salesmanship and commercial blandishment.
5. The physician can check the performance of the instrument which the patient finally receives. The patient can thus be assured that his own instrument meets the performance standards which he has a right to expect.

One of the most positive things the otolaryngologist can do is to see that a proper fitting earmold insert is provided before any trial of hearing aids is begun. A proper fitting earpiece is a necessity if a satisfactory hearing aid program is to be achieved. The frequency response of a hearing aid is measurably limited by an improper fitting earmold insert. Therefore, only if a proper fitting earmold insert is used during the trial of hearing aids, can the patient expect comparable performance with the instrument he procures.

There are three major steps in the procurement of an individually molded earpiece: (1) an accurate impression of the external ear must be taken, (2) this impression must be adequately processed, and (3) the finished earmold insert must be checked to see that it fits the patient's ear and the hearing aid receiver adequately.

1. Since confusions in nomenclature exist, for this paper the following terms are defined. "Impression" or "Earmold Impression" refers to the life size model of the external meatus and adjacent spaces of the auricle. "Earmold Insert" or "Earpiece" refers to the finished product, the plastic piece which is inserted in the ear, making possible the wearing of the hearing aid receiver.

2. A practical method, requiring a minimum of equipment, is described by Carhart, R., *"A Practical Approach to the Selection of Hearing Aids,"* TRANS. AMER. ACAD. OPHTH. AND OTOLARYN., Jan-Feb 1946.

The otolaryngologist can participate actively in two of these three steps. He can familiarize himself with a simple method of making earmold impressions and actually take the impression himself (Step 1), and he can check the fit of the finished earpiece (Step 3). The advantages of the otolaryngologist taking the impression himself are twofold. First, with a medical man taking the impression, his patient is protected, and second, the physician knows exactly what has been done and that it has been done correctly. However, adequate local facilities for taking earmold impressions may exist and the otolaryngologist may feel that he has discharged his obligation to the patient when he refers him to these facilities.

If the otolaryngologist refers his patient to someone else for earmold impressions, he must not only be certain that he will get an adequate impression, but that the processing of the impression will be adequate. The processing of an earmold impression is essentially the same as making a denture. While the manufacturing process must be conducted with extreme care if an adequate earmold insert is to result, any good dentist or dental technician can readily adapt his technique to the processing of earmold impressions.[3]

If the otolaryngologist takes impressions himself, he may find it desirable to join forces with a local dentist who will process his impressions. Such an arrangement would be most desirous in communities where no other facilities for processing earmold inserts are available, since it would eliminate the necessity for packing and shipping the impression. Furthermore, such an arrangement allows the processing to start a short time after the impression is made.

This paper is written with the hope that it may be helpful to the otolaryngologist who wishes to take an active part in the procurement of the earmold insert. The paper describes a quick and simple technique for the making of earmold impressions which has been in use for over two years in the Aural Rehabilitation program at Deshon General Hospital. This method was selected primarily because it was felt that it gave the most accurate impression; but, secondly, it was selected because it was the least time consuming. It is a method which the otolaryngologist can employ safely and easily.

II

The first decision which faces the otolaryngologist is a choice of materials to be used in making the impression. There are a number of substances which may be used. The most frequently employed may be divided into four classes: (1) the plasters, (2) the hydrocolloids, (3) the alginate base powders, and (4) the acrylics. Each of these materials have certain advantages and disadvantages.

A. Plaster has long been and is still used to a considerable extent; however, it is felt that it has serious disadvantages. Because of the unyielding surface of plaster, it is frequently difficult to extract from the ear. The impression is very likely to fracture, particularly when narrow and tortuous canals are encountered and there is always the danger of leaving a piece of plaster in the canal. It is unnecessary to describe the complications which may result from this. Plaster is very susceptible to air bubbles, even with the skilled operator, and the final surface is comparatively rough. The technique required by plaster is exacting. The material ordinarily requires a long setting time—at least fifteen minutes—although plasters

3. The process used at Deshon General Hospital in the manufacture of earmold inserts is described by McCracken, G.A., *"Earmolds for Hearing Aid Appliances,"* *ARMY MEDICAL BULLETIN*, pp. 567-570, Vol. IV, No. 5, November, 1945. This is a technique which could be used successfully by any dentist.

with faster setting times may be used. Even with the slow setting plasters the heat generated is occasionally quite uncomfortable for the patient. With the faster setting plasters the amount of heat generated increases with the speed of setting, thus becoming proportionally more uncomfortable for the patient. A cotton plug, which must be placed skilfully in the external meatus is an absolute necessity. In most cases the use of plaster permits a canal portion of only very limited length, first of all because of the need for a protective cotton plug, but more importantly because of the difficulty in extracting from undercut portions of the external meatus. The patient must be in a reclining position so that the plaster will flow into the ear. Excessive hair must be clipped from the ear. Only a single model may be obtained. Thus, the use of plaster is time consuming in contrast to other materials.

On the other hand, plaster has the following advantages. A minimum shrinkage problem will be encountered with this material. It can be shipped easily over long distances without too much danger of breakage and it is cheap in terms of the actual cost of the material.

B. The second and third materials, the hydrocolloids and the alginate base materials are similar with the single exception that the hydrocolloids must be chilled to get them to set, while this is unnecessary with the alginate base powders. They have these disadvantages. They shrink very rapidly unless they are invested immediately or kept moist. They can be shipped only in a container with a moistener, such as damp cotton. The materials are difficult to handle in taking earmold impressions. They must be either spatulated or syringed into the ear, since they have insufficient body to be introduced into the ear with the hand. These materials are not sufficiently homogenous to prevent their coming apart under certain conditions of use. They require a full minute and a half of spatulation before they can be handled. A cotton plug is a necessity. This not only takes time but limits the length of the canal portion. Only a single model can be made. Their setting times are slow.

However, the hydrocolloids and the alginate base powders have the following advantages. The final surfaces are quite smooth and the impressions are ordinarily very accurate. They generate no heat and as a result are more comfortable for the patient.

C. The fourth class of impression materials are the acrylics. These have some slight shrinkage,[4] although this may be retarded by a coating of mineral oil. Care must be taken in shipment to prevent the canal portion from being distorted by touching the side of the shipping container. In contrast to the hydrocolloids, alginate base powders, or plasters, the acrylic impression materials are expensive, but this is somewhat counterbalanced by the time saved in taking the impression.

The advantages of the acrylic impression materials are many. They have rapid setting times and have sufficient body to be handled and placed in the ears with the fingers. No time need be wasted in spatulating the material. Smoothness can be obtained by kneading the material in the hands for a few seconds prior to placing the material in the ear. No cotton pellet is necessary to protect the tympanic membrane, although it may be used if desired. Since a cotton plug is not used, an impression

4. Acrylic impression materials have been developed now specifically for earmold impressions. In particular two objectives have been sought for: (1) as great a degree of smoothness as possible, and (2) the extension of the time before which shrinkage occurs. One manufacturing concern claims an acrylic impression material which will show no appreciable shrinkage for forty-eight hours. As further improvements are made, we may expect the advantages of acrylic impression material in taking earmold impressions to be even greater.

of the entire external meatus can be made, with the result that the canal portion of the finished earmold insert can be as long as is commensurate with the comfort of the patient. The acrylic materials are highly elastic after they have set; but they are homogenous, have a high tensile strength, and sufficient body to permit some slight compression of tissue. There is never any problem of leaving material in the ear nor of extracting the impression—if proper precautions are taken—even where a bulbous mass is found at the end of the canal. The final surface obtained is quite smooth with the result that the final mold will be more accurate than one from plaster, since considerably less polishing will be needed. Finally, it is possible in most cases to use the one impression for a second or a third model if desired.

III

Because of its relative advantages acrylic impression material has been found the most efficient both from the economy of time in taking the impression and in the accuracy of the final mold. The use of an acrylic impression material[5] for better than two years in making earmold impressions of some 5000 ears in the Aural Rehabilitation program at Deshon General Hospital has convinced the staff of its accuracy, efficiency, and economy.

Others wishing to use acrylic material may be interested in the following description of the technique involved.

The following equipment and materials, illustrated in Figure 1, are needed:

1. An acrylic impression material. This comes as a powder and liquid which must be mixed.
2. An ordinary bowl-shaped china tea cup.
3. Light mineral oil.
4. A three-inch steel spatula.
5. Absorbent cotton.
6. An applicator.
7. A measuring vial holding 7 cubic centimeters.

FIG. 1—Equipment and Materials for Making Earmold Impressions.

The following procedure has been successfully used. The patient is seated in any convenient chair. Seven cubic centimeters of liquid, which is kept in a room at about 70 degrees Fahrenheit for best results, are placed in the mixing bowl or cup (Figure 2). Sufficient

FIG. 2—Placing 7 Cubic Centimeters of Liquid in Mixing Bowl.

5. The acrylic impression material which is used at Deshon General Hospital is *IMPRESSION AC 45*, manufactured by H. D. Justi and Sons, Inc., Philadelphia, Pa. There are other acrylic impression materials used, such as the Sonotone Corporation's *IMPRESSION MATERIAL NO. 4*.

acrylic powder is added to cover and absorb the liquid (Figure 3) and the excess powder is poured back immediately into the powder container (Figure 4). This is set aside while the following steps are taken.

FIG. 3—Adding Sufficient Acrylic Powder to Cover Liquid.

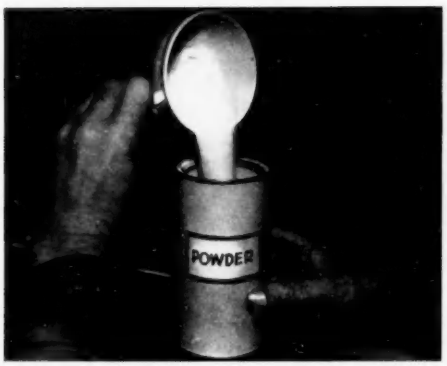

FIG. 4—Pouring Off Excess Powder Immediately.

A cotton swab is used to apply a light coating of mineral oil to the aperture and the walls of the external meatus to a depth of approximately one-quarter of an inch. It is unnecessary to apply the oil any deeper, because the impression material will not stick to the walls of the external meatus.

If the hair growth is prevalent elsewhere on the auricle, a light coating of oil is applied where this occurs. Occasionally when hair growth is excessive it becomes necessary for this to be trimmed in order that the impression may achieve full dimensions.

As the oil is applied to the ear, the size, direction, and the irregularities of the external meatus are observed.

The impression material is now about ready to be handled. It is tested with the finger. When an impression of the finger registers in the material and the material does not stick to the finger, it is ready to be used.

Approximately one cubic centimeter of mineral oil is placed on the palm of the hands and the palms and fingers are well oiled. The material is picked up with the spatula from the bowl and placed in the hands where it is kneaded for a few seconds to obtain a smooth texture (Figure 5). Occasionally, it is necessary to add a little more mineral oil to the hands, since some of the mineral oil will be absorbed in the impression material.

FIG. 5—Kneading Material in Hands to Obtain Smoothness.

The material is worked into a pear-shape and pulled out to a point sufficiently small to enter the aperture of the external canal with ease.

The patient's head is now tilted to an angle of approximately forty-five degrees. With the forefinger and the thumb of the left hand grasping the auricle and pulling it slightly to open

the aperture to its largest dimension, the point portion of the material is inserted in the external meatus (Figure 6). This is necessary to insure an adequate impression of this portion of the ear.

FIG. 6—Material Formed into Pear Shape and Pulled Out to a Point; Starting to Insert Point of Material into External Meatus.

FIG. 7—Packing Material in External Meatus with Finger; Left Hand Pulling Auricle to Open Aperture to Widest Dimension.

With the left hand holding the aperture open (Figure 7), the material is pushed into the canal with the fingers of the right hand until it is filled. The amount of pushing required to fill the canal varies considerably from ear to ear. The setting of the material, evident by a stiffening of the material, is watched carefully and enough time is allowed to finish the rest of the ear before the material becomes unworkable.

After the canal is packed sufficiently, the pull on the auricle is released and the fingers of the left hand are placed behind the auricle to hold it in the normal position. The concha is now partially filled with material. Then, with upward motions of the index finger or the thumb, the space between the helix and the antihelix is filled (Figure 8). Extreme care is necessary here to avoid overpacking and distorting and yet have this portion of the ear completely filled.

FIG. 8—Using Upward Motions of Thumb to Mold Material in Space Between Helix and Antihelix.

FIG. 9—Filling Concha as the Fingers of Left Hand Hold Auricle in Normal Position.

Next, the concha is filled (Figure 9). Care is taken to insure that the fingers holding the auricle do not distort it.

The tragus is now covered. The impression of this portion of the auricle

serves as a landmark in the manufacture of the earmold insert.

Next the crus is covered. Extreme care is exercised here to use no more pressure than is necessary to mold the material to this point. Excess pressure will press the helix against the antihelix and a defective impression will result.

Any excess material is now applied lightly on top of the material already in the ear (Figure 10). The material is allowed to set for approximately five minutes before it is extracted.

FIG. 10—Finished Impression as it Looks in the Ear. Excess Material has been Piled on Without Pressure.

At Deshon General Hospital impressions are made in groups. The patients are seated on ordinary chairs around the operator's work bench, which holds the equipment and material. Each of the ears for which impressions are to be made are swabbed with mineral oil as described above. With three ears remaining to be swabbed, the first batch of material is prepared in the bowl and is allowed to set while the three remaining ears are swabbed. By the time these ears are prepared and a second batch of material is mixed in a second mixing bowl, the first batch is ready to be handled and the first impression made. As soon as the first impression is made, another batch of material is prepared and allowed to set while the second impression is being made, and so on, until all impressions are completed. Under the correct conditions of room temperature (70 degrees Fahrenheit), this system works out perfectly so that no time is spent waiting on material to get to the point where it may be handled.

As each of the impressions is being made the operator watches the patient for any signs of discomfort. Discomfort results most frequently from the air pressure engendered by the packing of the material. However, the phenomenon occurs only in about one out of a hundred cases. Discomfort also results from the burning sensation produced when the alcohol contained in the material reaches a tender spot in the canal. This difficulty occurs rarely, appearing in approximately one out of a thousand cases.

Discomfort due to air pressure is usually handled satisfactorily by stopping momentarily to allow the patient some relief, then applying the pressure slowly, stopping momentarily, and so forth. Occasionally it is necessary to stop the pressure on the material in the external meatus and complete the rest of the impression, even though it seems the canal is not adequately packed. However, in most cases, discomfort from pressure is only momentary and the making of the impression may continue as usual.

In discomfort due to the alcohol in the material, it is sometimes possible for the patient to tolerate the discomfort long enough for the impression to be made. Rarely is it necessary to use another type of impression material. If this type of discomfort is encountered, occasionally it is possible to extract the material at once. In other cases it is necessary to leave the material in the ear until it has set sufficiently so that it can be removed as a whole from the external meatus.

The impression is ready to be removed when the material feels dry and of-

fers resistance when the finger is pulled across it. The mold is never removed as long as the material is damp and smooth to the touch.

In removing the impression the left hand grasps the auricle and the right hand the impression. The impression is first loosened around all the edges in the following sequence. The posterior portion of the impression is loosened first by pulling the auricle back to the head and pulling the impression away from the ear (Figure 11). Next by pulling the helix forward and upward and the impression backward and outward from the head, the portions between the helix and the antihelix and the cymba are disengaged (Figure 12).

FIG. 11—Loosening the Posterior Portion of the Impression First.

FIG. 12—Disengaging the Upper Portion of the Impression by Pulling Material Back and Away from the Head while Left Hand Pulls the Auricle Upward and Forward.

Now the material covering the tragus and the anterior portion of the auricle is loosened and the impression is ready to be removed from the external meatus.

Then as the left hand pulls and rotates the auricle circularly, the material is slowly removed from the canal (Figure 13). The material coming from the external meatus is watched carefully for any signs of tension or stretching. This will occur when there is a bulbous portion at the end of the external meatus. When tension appears, care and time must be taken in extracting the impression, in order that the patient will not experience any discomfort owing to the suction created.

FIG. 13—Removing the Canal Portion after the Impression has been Loosened all around Edges: The Canal Portion is Watched Carefully for Signs of Tension and Extracted very Slowly.

The completed impression is now inspected for defects. It is possible, of course, only to observe gross defects. There are two points at which these may occur: (1) the canal portion, and (2) that portion of the impression which filled the space between the helix and antihelix and which is frequently referred to as the "helix curl". In a rough way it is possible to notice if the canal portion of the impression is of a length and breadth commensurate with what has been observed of the patient's external meatus. It is also possible to see if the "helix curl" is complete or

whether it has been cut or notched when the impression was made.

If any doubt exists regarding the adequacy of the impression at these two points, or for that matter at any point of the impression, a new impression is taken immediately and then compared with the first one.[6] Frequently, it is necessary to take more than one impression where stenosis of the external meatus is present. It is most difficult to get an adequate impression of such ears. In these cases it is important while taking the impression to keep the aperture of the external meatus open to its widest dimension until the canal is completely filled.

Figure 14 shows two views of completed earmold impressions which are ready for processing. Identification of impressions is possible by giving each patient a number which is recorded in a log of earmold impressions and by placing this number on the back of the impression with indelible pencil. Commercial laboratories usually request the operator to print the name in indelible pencil rather than use a number.

Besides identification of the impression the processing laboratory needs to know what type of hearing aid receiver the earmold insert is to accommodate. This is necessary because of the variations in the diameters of receivers, and because the hearing aid receiver must not actually come in contact with the ear at any point. Usually a hearing aid receiver which is small may be set closer to the ear than a larger receiver. At Deshon General Hospital all earpieces are made to fit the Brush DJ (large) crystal receiver. This is the largest of the receivers on any of the standard makes of hearing aids. If the earmold insert is made for this receiver, then any of the smaller receivers on the standard makes of hearing aids may be tried successfully. If a hearing aid is finally selected for the patient which uses a smaller receiver than the Brush DJ, then the earmold insert may be altered by the processing laboratory to permit this receiver to lie closer to the ear.

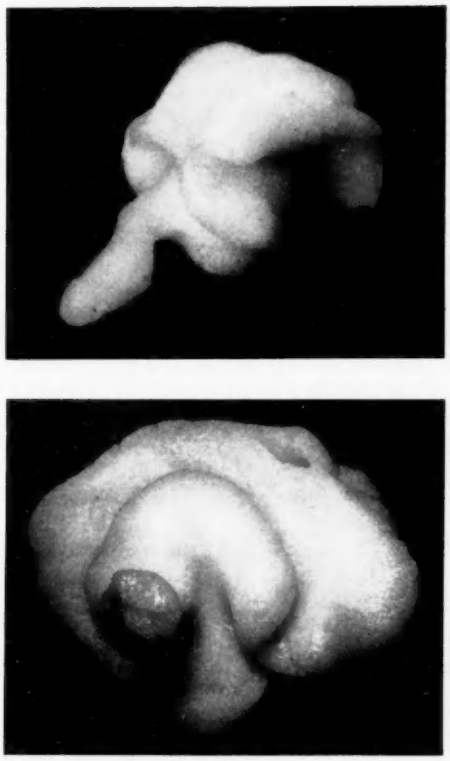

FIG. 14—Two Views of Finished Impression.

The most desirable arrangement is to have the processing laboratory in close proximity to the place of making the impression. It is then not necessary to pack the impression carefully for shipment. Moreover, there is no problem of shrinkage and distortion in the material, since the processing can be started at once.

6. One commercial company requires its operators to take sufficient earmold impressions of the ear to get two impressions which are identical as far as the operator can observe. Both of these impressions are shipped to the processing laboratory where one is used to make the mold and the other is held, in order to compare it with the finished product. Taking impressions until two identical ones are achieved is a recommended procedure for the beginning operator.

At Deshon General Hospital an earmold laboratory is maintained in conjunction with the Aural Rehabilitation program. As soon as the impressions are completed they are carried into the laboratory for immediate processing. The manufacture of the earmold insert can thus be started within a few minutes after the impression has been taken.

If it is necessary to have the processing done out of the locality, the most desirable method is to have a local dentist or dental technician prepare a cast by investing the earmold impression in artificial stone. This cast may then be shipped to the processing laboratory without any problem of shrinkage or distortion.

In cases where it is necessary to ship the acrylic impression itself, transportation schedules should be investigated and the most rapid means of shipping selected. Coating the impression with mineral oil will be an aid in retarding shrinkage.

Further, where it is necessary to ship impressions, they must be carefully prepared and packed. A small sturdy cardboard or wooden box should be used, the inside dimensions of which should be larger than the impression. The base of the impression must be firmly packed and held in place in order that the canal portion of the impression will at no time touch the container. Should the canal portion touch the sides of the container, it will be pushed out of line. If it remains in this position long enough, the material will assume this new position and a defective earmold will result.[7]

Obviously the best method is to have the impression processed locally. For this reason it was suggested earlier that arrangements for the processing of impressions be made with a local dentist or dental technician.

IV

The second responsibility of the otolaryngologist in connection with the earmold is to check the completed earpiece and see that it is satisfactory. There are three operations in this checking: (1) inspection for imperfections (abrasive spots, etc.,), (2) checking for fit to the hearing aid receiver, and (3) checking for fit in the patient's ear.

The following items are checked to insure that imperfections are absent. The surfaces of the earmold insert which touch the auricle and the external meatus are examined for abrasive spots. These surfaces must all have high polishes, otherwise they are likely to make the ear sore. The end of the canal portion of the earpiece is checked to see that it has been tapered and that it is smooth and rounded. This is essential to guard against damage to the walls of the external meatus when the earpiece is inserted and extracted. The sound channel is next inspected to determine if it is smooth and clear of all foreign matter and if the bend in the channel is smooth and rounded. The sound channel should be as large as is commensurate with the size of the canal portion of the earpiece.

The inspection of the earmold for fit to the hearing aid receiver requires the checking of the surface of the earpiece to which the hearing aid receiver attaches to see that it is either perfectly flat or convex. If the surface is ever so slightly concave, a good seal between the earmold insert and the hearing aid receiver can not be achieved. The main point of seal between the earmold insert and the hearing aid receiver is the metal insert ring. Without proper seal here the same problem is encountered as with an earmold insert which is not snug fitting: viz., a measurable limita-

7. One commercial company uses a special shipping container fitted with a partition which is equipped with a slot. The impression is inserted into the slot with the canal portion down. The outer edges of the impression rest on this partition thus allowing the canal portion to remain suspended and not touch any part of the container.

tion is placed on the frequency response of the instrument. Finally, the spring in the insert ring is checked by snapping a hearing aid receiver on and off to determine if it is holding the receiver tightly. A well-fitting spring will require considerable pressure to snap the hearing aid receiver on and off.

Now the earmold insert is checked for fit in the patient's ear (operation 3). A hearing aid receiver is attached to the earpiece before insertion into the patient's ear. If the patient has his own hearing aid, his own receiver should be used. However, if the patient is starting out on the trial of hearing aids, a Brush DJ Crystal receiver or a die duplicating the diameter and weight of the Brush DJ Crystal receiver should be used. The attachment of a receiver or die to the earpiece before insertion is necessary for two reasons: (1) it is much easier to insert and extract the mold with the receiver or die attached (with some ears it is very difficult to extract the earmold insert without the receiver being attached) and (2) the clearance of the receiver must be checked since the receiver touching the auricle at any point will likely cause an abrasion.

The earpiece with receiver attached is now inserted into the ear. This first insertion is made with extreme care, for if the processing has been faulty and the earpiece does not fit the patient's ear, some damage may be done to the external meatus. It is frequently advisable to oil the canal portion with light mineral oil or other suitable lubricant to make this insertion easier.

There are two main methods of insertion which may be tried. The first method is successful with most ears, but occasionally an ear is of such a character that the second is easier. The first method is as follows: The canal portion of the earpiece is first inserted into the external meatus as far as it will go while the "helix curl" is held in a position which is anterior to the helix. The earpiece is now turned in a counter-clockwise direction, if the right ear is being fitted (clockwise, if it is the left), and the helix curl is engaged in position between the helix and the antihelix. With the other hand the lobule is now pulled down and backward so that the inferior cavum portion of the earpiece will clear the antitragus and the earmold insert now is pushed in gently, seating the entire earpiece in the ear.

The second method is useful occasionally on ears which have considerable undercut and on which the first method has been unsuccessful. Here the first step is to place the "helix curl" and the portion of the earmold insert which will lie between the antihelix and the cymba in position with the canal portion of the earpiece just ready for insertion into the external meatus. Next, the other hand pulls downward and backward on the lobule as the earpiece is inserted in the canal and seated in position.

With the earmold insert in position, the patient is asked if it feels comfortable and, if it doesn't, to specify as best he can where it is uncomfortable. Next the receiver is tapped lightly at first, then somewhat more heavily. If any discomfort is experienced, the canal portion of the earpiece is tapered further. Occasionally it is necessary to have the canal portion of the earmold insert shortened slightly. Where there is some slight discomfort, or if it is felt that the complaint is not a legitimate one, the patient is asked to wear the earmold insert for a day or so to determine if the discomfort will persist after he becomes adjusted to having the earmold in his ear.

The posterior portion of the earmold insert is next observed to see if it fits the rim of the concha adequately. If, in taking the impression, the auricle has been held out too far from the head or the impression of the posterior portion

of the concha has not been accurate, the earpiece will stand out too far from the auricle, or, there will be a gap between the earpiece and the rim of the concha.

The hearing aid receiver is now checked to see that sufficient clearance exists between it and the auricle. This distance should not amount to more than approximately one sixty-fourth of an inch, otherwise the earpiece will project too far from the ear and from a cosmetic standpoint will be unsatisfactory. If there is insufficient clearance, it is necessary to take a new impression and have a new mold made.

Occasionally it can be determined if the earpiece has a good seal at the aperture by grasping the receiver and moving it back and forth in a horizontal plane. Sometimes it can thus be determined that the canal portion is too loose, for it can be felt to move from one side of the external meatus to the other.

Some complaints turn up only after the patient has worn the earmold insert for several days. These are usually in the nature of the earpiece hurting the ear at some specified spot. These ordinarily are readily checked if the patient has been wearing the earpiece for an hour or so prior to the time he is seen. Most of the time inflamed portions of skin can be observed and the operator can go directly to the source of trouble on the earmold insert. These are most frequently found to result from small abrasive spots on the earpiece which have not been observed in the original check. Occasionally the end of the canal portion has not been tapered sufficiently and a small inflamed spot may be observed with the otoscope. Sometimes there is discomfort in the area of the helix which may be caused by one of three things: (1) an abrasive spot on the earpiece, (2) a "helix curl" that is too large, the result of overpacking this area when taking the impression, or (3) a "helix curl" which is distorted, the result of pushing this area forward and out of position when the impression was taken. In most cases each of these faults may be remedied in the laboratory without making a new earmold insert.

An occasional patient may manifest an allergy to the acrylic material out of which the earpiece is made. However, when the acrylic used is of sufficient purity, no allergy reactions are likely to be encountered. At Deshon during the time that a clear acrylic denture base material has been used for making the final mold, there has not been a single case of allergy reported.

Occasionally a patient reports that his earpiece is loose and the hearing aid "squeals". It becomes necessary then to locate the cause of the "squeal". It is done in this manner. First, the patient is asked to demonstrate how the hearing aid "squeals". The earpiece is removed from the ear of the patient and unclipped from the hearing aid receiver. With the thumb and forefinger of one hand holding the *sides* of the hearing aid receiver, the thumb of the other hand is then placed tightly over the sound outlet of the receiver. With the volume control of the hearing aid turned on full, the receiver, held as indicated, is brought up to the microphone of the hearing aid. If a "squeal" of the same pitch and loudness is now heard, the hearing aid receiver, because of leakage from the back of the case, is causing the trouble, and the offending receiver is discarded for a new one. If there is no "squeal" upon this operation, or if a very faint whistle is heard at a distance of six inches or less from the microphone (this amount of leakage from the back of the receiver case is tolerable under most circumstances), the earmold insert is clipped back on the receiver. Now with the thumb and forefinger of one hand holding the earpiece (not the receiver) and the thumb and finger of the other hand closing off the sound channel of the earmold insert,

the receiver is again brought in proximity to the microphone of the hearing aid. If the "squeal" which the patient demonstrated is now heard the source of trouble is the seal between the receiver and the earmold insert. This may stem from one of several things: (1) a high spot on the "receiver surface" of the earpiece, (2) a defective insert spring which is not sufficiently strong to force the seal between the insert ring and the receiver surface, (3) insert ring which has been loosened from the acrylic, and (4) an abraded insert ring. In each case the earmold insert is returned to the processing laboratory for correction of the defect. In some minor cases, or temporarily, the fault may be remedied by placing an oil-skin paper (loose leaf ring hole reinforcement) washer over the receiver nub and clipping the earmold insert back on the receiver.

If these checks have not disclosed the source of the "squeal" then it is reasonably certain that the leak is between the earmold insert and the auricle itself. The earpiece with the hearing aid receiver is again inserted into the ear and it is again checked for "squeal". It is possible that the patient has not had the earpiece seated fully in the ear. If feedback or "squeal" still remains, then a new impression must be taken and a new earmold insert made. At this point an attempt is made to determine what was wrong in the making of the original impression and steps are taken to correct the error in the next one.

V

The foregoing offers a simple and economical method of making earmold impressions and of assuring that the earpiece is adequate. This method has proved successful at Deshon General Hospital in the Aural Rehabilitation program. It is one which can be used with high success by practicing otolaryngologists who wish to assume this service to the hard of hearing patient who is procuring a hearing aid. By its use the otolaryngologist can meet one of his most important responsibilities to patients for whom air conduction hearing aids are prescribed, viz., insuring that the patient has an adequate earmold insert with which to embark upon the selection of hearing aids.

PHYSIOLOGY AND PATHOLOGY OF THE EUSTACHIAN TUBE AS OBSERVED BY DIRECT EXAMINATION WITH A CATHETERIZING NASOPHARYNGOSCOPE

LOUIS K. PITMAN, M.D.
NEW YORK, N. Y.

IT IS my opinion that the only method of obtaining an undistorted picture of the opening and closing movements of the eustachian tube is by the use of an eustacioscope. Such an examination is accomplished through the nose and therefore does not interfere with the normal movements of the soft palate and the eustachian orifices. Repeated examinations of the pharyngeal openings of the eustachian tube by this method over a period of years have given me the opportunity for extensive observation, without distortion, of eustachian tube pathology and physiology as observable in the region of the torus tubarius.

ANATOMY OF EUSTACHIAN TUBE*

A brief review of the anatomy of the eustachian tube will orient us as to the problem presented. The eustachian tube is the source of communication between the epipharynx and the middle ear. The direction of the eustachian tube, beginning from the epipharynx, is upward, backward, and outward. It is a bi-trumpet canal, with the two narrowest portions in approximation. This area is known as the isthmus. The tympanic trumpet has an osseous framework and is therefore constantly open. The pharyngeal trumpet, which is the cartilaginous and membranous portion of the eustachian tube, is the gate to the middle ear; it opens and closes.

When closed, the pharyngeal portion of the eustachian tube is made up of two adjacent vertical walls, anterior and posterior, lined by ciliated columnar epithelium. The posterior wall is supported by a right-triangular cartilage, the upper margin of which is hinged in a groove in the base of the skull, while its lower margin is freely movable. The inner or pharyngeal border of the cartilage is free, and projects slightly within the nasopharynx to form the torus tubarius.

A normal eustachian tube is of great importance in maintaining normal conditions in the middle ear. It is through this tube that air enters the middle ear for the purpose of equalizing pressure on the two sides of the eardrum. Middle ear pressure should normally accommodate itself to variations in atmospheric pressure. A physiologically closed eustachian tube will disturb external and middle ear pressure balance, causing pain, fullness in the ears and at times dizziness. Rupture of the drum may occur if the difference becomes sufficiently great. This condition is known as *aero-otitis* or baro-otitis. A continuously open eustachian tube may cause abnormalities in the perception of sound.

PREVIOUS METHOD OF EXAMINING THE EUSTACHIAN TUBE

A method of observing the pharyngeal orifice of the eustachian tube used extensively up to this time, as outlined by Yankauer, Hollander and other aurists, consists of passing a direct nasopharyngeal speculum through the mouth, and retracting the soft palate forward until

* Graves, O. G. and Edwards, L. F. The Eustachian Tube; Arch. Otol. 39:359-397 (May) 1944.

the orifices of the eustachian tubes are brought into view. Among the defects of this manner of examination is the fact that no matter how much the soft palate is brought forward, the orifice of the tube cannot always be brought into view on account of its anatomic position in some individuals. A great deal of cocainization is necessary and such medication will affect the normal appearance and function of the pharyngeal orifice of the eustachian tube. There is also a great deal of operative and postoperative discomfort to the patient. When the soft palate is retracted forward, its movement is arrested, and the movement of the pharyngeal orifice of the eustachian tube is also arrested, owing to the fact that its opening and closing movements work concomitantly with the movement of the soft palate. This method of observation leads one to a defective observation of the normal action of the eustachian orifice, for one views the orifice of the tube in an arrested state.

Following exposure of the eustachian orifices by palatal retraction a eustachian catheter may be introduced into the mouth of the eustachian tube and a current of air may be blown into the tube. The character of the sound imparted to the ear of the examiner as heard through a connective tube is said to be of diagnostic value in determining the normality and functional condition of the eustachian tube. It is stated that in a normal tube, the insufflation of air produces a low, soft blowing sound. If there is stenosis of the tube, however, the note is high pitched and rough. If the eustachian tube contains mucous it emits a bubbling sound. When a stenosis of the eustachian tube is suspected because of the test mentioned above, a small-sized bougie may be passed through the eustachian catheter until an obstruction is encountered, which is usually found to be at the isthmus. Such obstruction has been stated to be the cause of the tubal stenosis.

I am not in accord with this interpretation of the obstruction met with in bouginage. The obstruction encountered by the bougie in my opinion is not an obstruction at all but is merely produced by the bougie encountering the rim of the isthmus, where the bony canal begins. I believe that even a narrow isthmus plays no part in eustachian tube pathology.

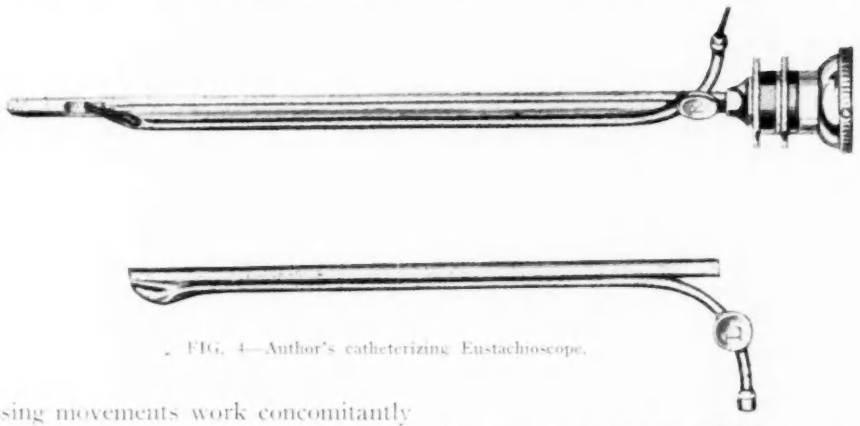

FIG. 4—Author's catheterizing Eustachioscope.

I have performed the following experiment in hundreds of consecutive cases over a period of years. In a patient who is presumed to be suffering from middle ear impairment, secondary to stenosis of the eustachian tube, as diagnosed by bouginage done after the technic described above, a catheter is introduced

to the isthmus. The catheterization is performed under vision with the aid of the author's catheterizing eustachioscope. The free end of the catheter is coupled to an apparatus which alternately compresses and rarefies air. The external canal of the same ear is braced by a plug connected to the other end of the apparatus so as to absorb the shock caused by the sudden alternations of pressure. The apparatus is operated for a period of three minutes. During this period, the plug in the external auditory canal is removed for a short time in order to observe the ear drum. The tympanic membrane may be seen to vibrate

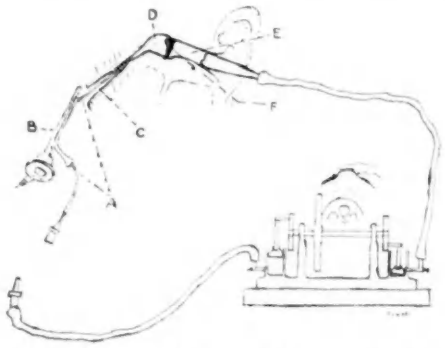

FIG. 1—Schematic diagram of the apparatus when alternating compression and rarefaction of air is desired.
A—Catheter tube with forward outlet.
B—Catheterizing Eustachioscope.
D—Middle ear.
F—Tympanic membrane.

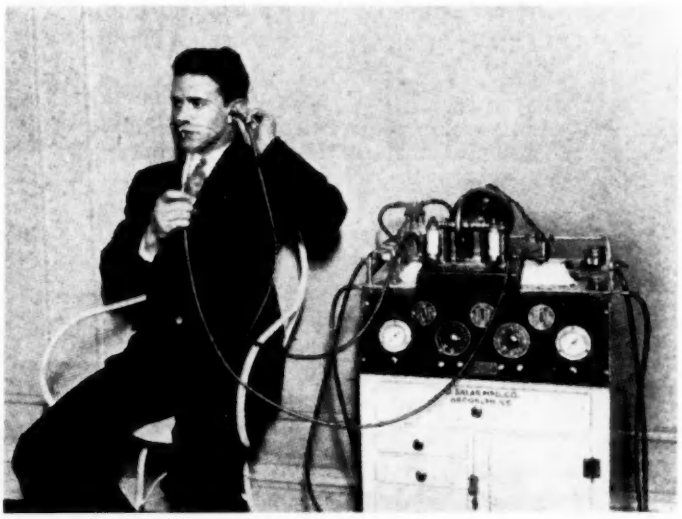

FIG. 2—Rarefaction and compression apparatus in use.

concomitantly with the compression and rarifaction of air in the middle ear. Furthermore, at the end of three minutes, Shrapnel's membrane and the area adjacent to the handle of the malleus are found to be congested.

Since this experiment made it clear that air was entering the tube, the conclusion was formed that the isthmus was patent in all the patients tested.

THE PHARYNGEAL ORIFICE OF THE EUSTACHIAN TUBE

The Normal Eustachian Tube. It is my opinion that the pharyngeal orifice of the eustachian tube, which, opening and closing, acts as a gate, plays the major physiological and protective function to the middle ear.

It works as follows: the torus tubarius, which is the free margin of the

right-triangular cartilage of the eustachian tube and which projects within the nasopharynx, moves backward, upward and inward when the tube is opened. With this movement, it sweeps any surrounding secretion backward and away from the orifice of the tube. In this way, it keeps the orifice of the eustachian tube free from secretions.

The opening and closing movement of the pharyngeal end of the eustachian tube can be well observed with the aid of a nasopharyngoscope or eustacioscope. When the tube is closed one sees a vertical slit. (Figure 3.) During the act of swallowing, the soft palate rises, and the mouth of the tube is seen to change its shape from a vertical slit to a triangular opening. This is produced by the backward movement of the right-triangular cartilage of the pharyngeal portion of the eustachian tube together with contraction of the tensor palatini muscle.

When the pharyngeal orifice of the eustachian tube changes from a vertical slit to a triangular opening, the movement overcomes the surface tension of any film of secretion that may be stretched across the orifice. In this way the film of secretion is made to collapse, and the orifice of the eustachian tube is opened for ventilation of the middle ear. The mode of action is the same as if a film of soap were stretched across two approximated adjacent fingers; when the fingers are separated, the film of soap immediately collapses, for its surface tension is overcome.

The Pathological Eustachian Tube.

The tube is considered pathological when it is permanently open or closed.

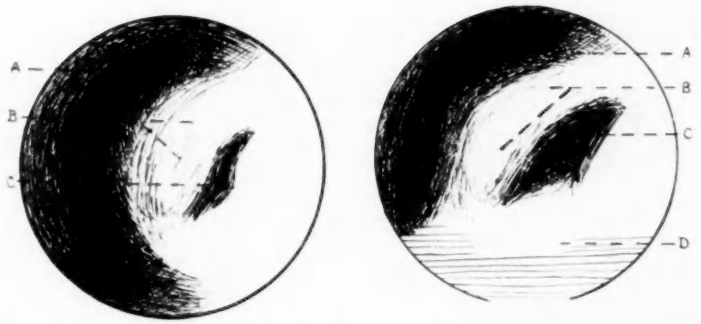

FIG. 3—Left—The pharyngeal orifice of the left Eustachian tube, as seen with the aid of a nasopharyngoscope when at rest. A—fossa of Rosenmüller. B—torus tubarius. C—mouth of tube closed and seen as a vertical slit. This is normal.

Right—The same as in fig. at left, but during the act of swallowing. The fossa of Rosenmuller is nearly closed by the backward and upward movement of the right-triangular cartilage which has distended the tube. The tube is open, the vertical slit is changed to a triangular opening. This is normal.

Open tube: Causes for a pathologically open tube.

Adhesive bands, running from the posterior border of the tube, bridged across the fossa of Rosenmüller and attached to some portion of the nasopharynx, will retract the posterior wall of the tube backward, thus causing the tube to be kept open.

I have found that embedded hypertrophied tonsils also may cause an open eustachian tube. This was found to be owing to the anatomic position of the tonsil. The inner extremity of the leva-

tor veli palatini muscle is immediately above the dome of the tonsil. One can readily see that a highdomed hypertrophied tonsil, on account of its upward pressure, tends to elevate the levator muscle, which in turn pushes the right triangular cartilage backward, upward, and inward, and causes the pharyngeal orifice to the tube to remain open.

in a pathologically open eustachian tube when a mucous plug fills the pharyngeal orifice at the mouth of the eustachian tube and cannot be dislodged, for the opening and closing movement of the torus tubarius no longer functions to free the opening, and thus passage of the normal bubble of air into the middle ear is inhibited.

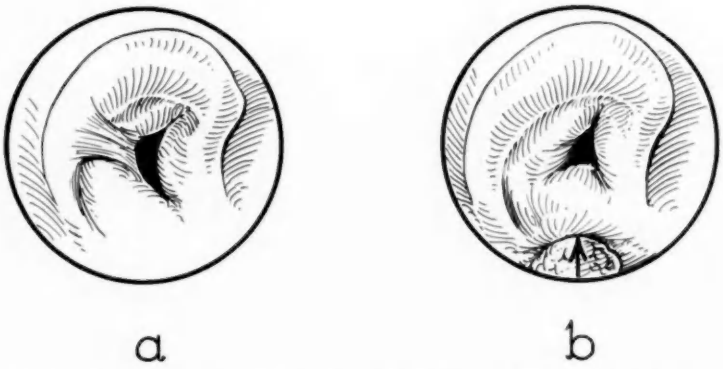

FIG. 5—(A) Open mouth of Eustachian tube due to adhesions. (B) Open mouth of Eustachian tube due to pressure of highdomed tonsil.

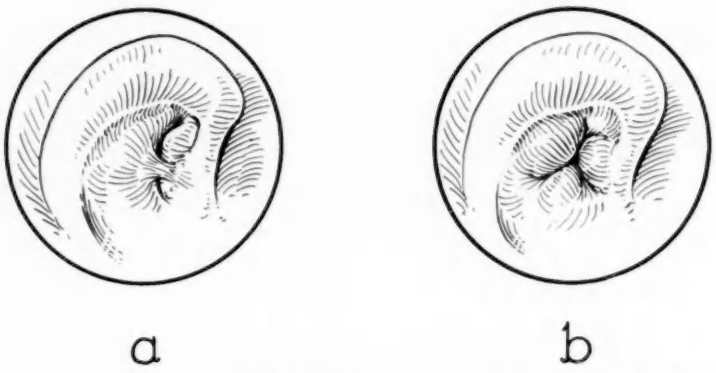

FIG. 6—(A) Closed mouth of Eustachian tube due to adhesions. (B) Mouth of Eustachian tube closed due to edema.

Closed tube.

The eustachian tube is pathological when it is permanently closed. A closed tube hinders normal ventilation of the middle ear and is chiefly due to one of three causes.

(1) Middle ear symptoms are present

(2) Adhesions in the mouth of the eustachian tube may prevent it from opening. (Figure 6-A.)

(3) Edematous mucous membrane at the mouth of the tube may obliterate the lumen of the eustachian tube and the fossa of Rosenmüller. This may be

caused by acute rhinitis, vaso-motor rhinitis, sinusitis, or some other factor causing irritation. (Figure 6-B.)

The orifice of the eustachian tube is the most dependent portion and also the portion having the least fibrous and elastic tissue framework. Hence swelling is more apt to occur in this region. Such a condition would preclude entrance of air into the tube, but a metal catheter could be inserted without a sense of resistance and this would give a false impression that no obstruction existed at the tubal orifice.

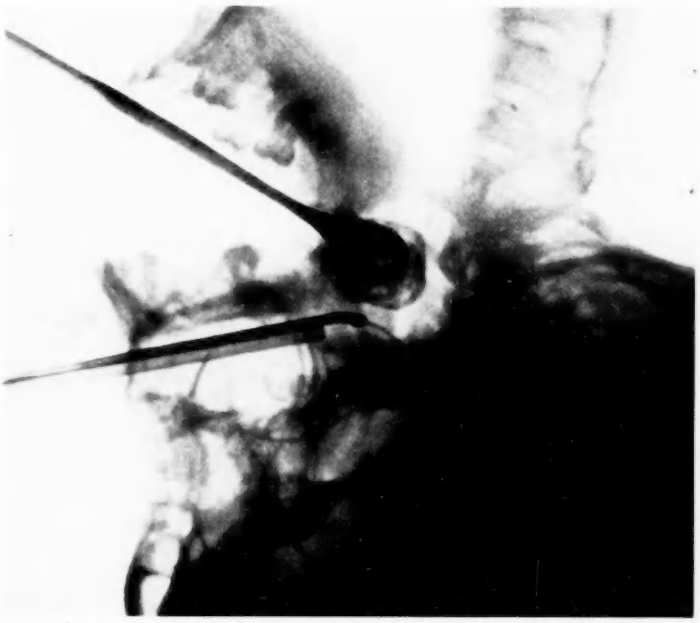

FIG. 7—Lateral roentgenographic view of skull. X-ray catheter introduced in Eustachian tube with the aid of catheterizing Eustachioscope. The nasopharyngoscope has been removed. On the same side, in the tonsillar fossa, immediately after tonsillectomy, a sponge dipped in barium paste is replaced. The dome of the tonsillar fossa is seen to be in close relation to the mouth of the Eustachian tube.

In Memoriam

William Byron Agan.....Brooklyn, New York
February 5, 1946

Aaron Barlow.....Philadelphia, Pennsylvania
February 8, 1946

Henry N. Blum.....New Orleans, Louisiana
April 13, 1946

Waid Edwin Carson.....Pittsburgh, Pennsylvania
April 10, 1946

Benjamin G. Dyer.....Kalamazoo, Michigan
May 15, 1946

Hal Foster.....Kansas City, Missouri
May 21, 1946

Charles M. Fullenwider.....Muskogee, Oklahoma
January 26, 1946

Erastus Eugene Holt, Jr.....Portland, Maine
February 2, 1946

Rufus Jackson .....Baton Rouge, Louisiana
February 21, 1946

Ferdinand Shoemaker.....Kansas City, Missouri
December 19, 1945

Thomas Milton Stewart.....Cincinnati, Ohio
December 10, 1945

James Watson White.....New York, New York
May 15, 1946

In Memoriam

HAL FOSTER, M.D.
1858 - 1946

HAL FOSTER, A.B., M.D.

1858 - 1946

Dr. Hal Foster, founder of what is now the American Academy of Ophthalmology and Otolaryngology, died on May 21, 1946. On December 4, 1945, while crossing a street, he was struck by an automobile and sustained a fractured femur. From that day he was in constant pain and gradually lost strength.

He was born in Foster, Alabama, in 1858 and received his early education in the schools of that state. On September 17, 1882, Dr. Foster landed in Kansas City where he practiced medicine for 61 years. He retired in 1943. There were eight ophthalmologists in Kansas City when he arrived. For a time, he was the only physician limiting himself exclusively to O.R.L. work. He was really the father of otolaryngology in Kansas City.

One marvels how he, being so reserved, ever succeeded in asserting himself enough to become the father of what is now the most dynamic educational organization of medical specialists in the world. Though he meticulously performed all duties assigned him and ever kept abreast of the times, the fact that he faded out of the picture early in the Academy's work is evidence that he sought no special recognition for what he had achieved. He was the sort of leader who pushes others to the front because he felt they could do the work better than he.

In the East, Dr. Foster worked under and with eminent medical men in clinics and fellowshipped with them in medical societies. In Kansas City, he became lonesome, felt isolated, longed for medical companionship. In those early days there was not an abundance of American medical literature. Then, too, Kansas City was days instead of hours away from New York City. An idea flashed into his mind — A WESTERN MEDICAL SOCIETY OF EYE, EAR, NOSE, AND THROAT.

Dr. Foster was never a promoter, never an organizer, never an executive. The part he played in making the Academy what it is today is insignificant compared to what others have done, but he acted when opportunity presented. Throughout the years, he has watched the Academy develop. He never missed a meeting when he was in this country. He often told me the joy that was his in observing the constantly expanding activities of the Academy.

JOHN L. MYERS, M.D.

TRANSACTIONS

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Editorial

Home Study

On another page in this issue of the TRANSACTIONS the American Board of Ophthalmology reports a very high percentage of failures of candidates for certification by examination. The Board of Otolaryngology has failed 15 to 30 per cent of its examinees for the past 10 years and the Board of Ophthalmology has a record somewhat similar.

Does this record of failures on examination reflect the clinical incompetency of physicians who, after an internship of one year and two years of graduate training in ophthalmology and otolaryngology, are beginning private practice? Are the Board examinations seriously considered by the candidates as a measure of this training and the Board certificate a sanction of their colleagues to membership in the Academy and other societies of these specialists, to hospital staff membership and promotion on teaching faculties? Are the Board examinations held in mind by the graduate faculty in our medical schools and hospitals and is training directed toward meeting Board requirements?

Consider for a moment the origin of specialty boards, their purpose and what has been accomplished by and through them. The first of the specialty boards was the American Board for Ophthalmic Examination, organized in 1915. The Board was a stepchild of the Committee on Admissions of the Academy and of the American Ophthalmological Society, and was charged with the duty of selecting candidates for society membership on the basis of clinical ability. In 1920 the Board for Ophthalmic Examinations stated in its official report, "There still remains (*sic*) some American ophthalmologists who have not yet made application for it, whose public records in ophthalmology would entitle them to the certificate without their being required to present case reports or to pass other examinations. Failing to make such application, the opportunity will be withdrawn at the end of this year, 1920." [Section on Ophthalmol-

ogy, A.M.A., 1920, pp. 247.] At the time this report was made the Board had certificated 150 on "public record," case reports and examination. There is no statement of how many were certificated on "public record" alone. The Board in 1920 decided to withdraw offers of certification except through case reports and examination. That thought originated within the Board and was presented to the respective ophthalmological societies and accepted by them. [The Board was composed of representatives of the Academy, the American Ophthalmological Society and the Section on Ophthalmology of the American Medical Association, and with one or two exceptions all members of the Board held membership in all three of these societies.]

Although only a few ophthalmologists sought the certificate (150 by 1920) the Board held out for higher qualifications for practice than "public record," and demanded case reports. The case reports were accepted by the Board as sufficient for certification in some cases. It could reject them and demand better case reports, or demand that in addition to the submitted case reports the candidate appear for examination. The action of the Board was never contested. It made its own rules and its own decisions. Its aim was to raise the standards of medical practice. It was clearly seen then by the Board, and has been reaffirmed time and again by this and other boards, that higher qualifications for practice were to be had only by better education and training of the candidates, and only by examination could the fitness of the candidate be appraised.

The Boards gradually have raised the requirements for examination and called upon graduate medical schools and hospitals to improve their courses of instruction. The failure of so many candidates to pass the examinations must be a reflection of the teaching and underestimation of the candidate of the scope of the examination. This latter may now be laid to the school as the Board requirements are known to all teachers; the scope and comprehensiveness of the examination are made known by the Boards to all candidates and teachers as well. The Board, however, is not an educational body and cannot provide instruction nor prepare a course of study and remain impartial examiners and appraisers.

Too many candidates appear for the examination without adequate preparation. Two or three years of clinical experience does not meet the requirements of the boards. A fair knowledge of the basic subjects is expected of every candidate. Teaching in the basic subjects requires time on the part of a busy faculty. The student may be left largely to forage for himself in the wide field of ophthalmic literature with little guidance on the part of his preceptors.

Graduate schools and hospitals can greatly augment their teaching in the basic subjects by making use of the Academy Home Study Courses.

INDUSTRIAL OPHTHALMOLOGY

INTRODUCTORY STATEMENT

Research industrial eye programs were necessarily first focused on the large plant. The reason for this being, of course, that the personnel was large enough to assist in following through on all of the various angles of such a program; namely, safety directors, statisticians, engineers, medical directors, etc. At no time, however, has the small plant been forgotten. There are a number of interesting and successful ways in which small plants are getting the benefit of exactly the same service that a large plant gets. Dr. Thomas Allen reports in this issue the experience that the Illinois Society for the Prevention of Blindness has had in carrying out Dr. Harry Gradle's program for small industries in the Chicago area. In this connection, I would like to relate the following story as an illustration of how an ophthalmologist should not act when made part of an industrial program: A small plant 100-250 in the Chicago area had had the benefits of a survey, revealing individuals who needed corrective procedures, revealing certain eye hazards and needs for greater illumination. The consulting ophthalmologist came to the plant to visit and went through with one of the management guides. In going through a section where a great deal of soldering was being done, he made the following remark: "There is absolutely no need to use goggles for soldering. There is no hazard. Goggles are not necessary." This ophthalmologist, who evidently was just beginning to learn about industrial operations and hazards, took it upon himself to speak with authority and without the courtesy of a conference with the safety engineer who had just finished surveying the plant and had indicated that this department was one in which goggles must under all circumstances be worn. It is easy to imagine the confusion that management was thrown into by contradictory statements which were made by two people each supposedly knowing what they were talking about. In addition, it either put the safety man or the M.D. in a bad light and lowered the confidence of the workers who had heard the remark. There are many honest differences of opinion about eye protection and many other phases of the industrial eye program, but these can usually be ironed out by a short conference where all parties concerned learn much from each other. It would seem of utmost importance that the ophthalmologist be reserved in his expressions and positive opinions until he is sure of his ground and then be careful where and to whom he talks.

The experience that is being submitted relative to the use of sodium sulfacetimide 30 per cent is presented in a most informal manner. But it has seemed it would be of great interest and value.

Further biographical material will be found in this section in each issue of the TRANSACTIONS.

HEDWIG S. KUHN, M.D.
Secretary, Joint Committee
of Industrial Ophthalmology

A SMALL PLANT INDUSTRIAL EYE PROGRAM

THOMAS D. ALLEN, M.D.
CHICAGO, ILLINOIS

FOR MANY years ophthalmologists have discussed in small groups how they could help individuals in small industrial plants to avoid accidents. Only a few of the larger plants instituted any real program, however, until "Goggles" Guilbert began preaching and teaching what had been accomplished by the accident prevention bureau of the Pullman Company. Increasing interest in the subject has been manifested by labor leaders, insurance companies and management. They were moved by three considerations: (1) reduction of human suffering and lost time, (2) reduction of insurance liabilities, and (3) increasing productivity. Many of the larger industrial plants have found it feasible to institute ophthalmic examinations and placement programs for their employees based on those examinations; but these were not suitable financially for the smaller plants with fewer than 200 to 500 employees.

A plan was conceived by Dr. Harry S. Gradle whereby the Illinois Society for the Prevention of Blindness could make available to such plants the services of a safety engineer, illuminating engineer and visual survey technician at the very nominal cost of one dollar per employee tested. This plan was enthusiastically adopted by the Society, and as it seemed to be appreciated by the industrial plants first contacted, a preliminary report was made by him at the 6th annual congress on Medical Health, Chicago, February 15, 1944, under the title "A Visual Service for Small Manufacturing Plants" (J.A.M.A., May 27, 1944, Vol. 125, p. 253).

In this present contribution we hope to bring you some concrete evidence of the results of this program.

An Industrial Division of the Illinois Society for the Prevention of Blindness was formed, and Mr. F. J. Almcrantz, a safety engineer, was engaged as director. The Society sent out to several small manufacturing concerns an attractive folder (Figs. 1, 2, and 3) explaining the plan briefly and asking the management to request literature and an interview. When contact was made, a two page letter "A Visual Service for Industry: aimed at the prevention of blindness by the elimination of industrial accidents" was sent, and by appointment, Mr. Almcrantz himself visited the plant and made arrangements for (1) a safety and illumination survey of the plant, and (2) a visual survey of individuals.

"THIS SERVICE OPERATES in the following manner: After preliminary arrangements have been made, a schedule is set whereby the employees are sent to the selected place in the plant on such a time schedule that there is a minimum interference with the normal operation of the plant.

"At the appointed time the tester conducts a visual survey of each employee, using the new Bausch and Lomb OKTHO-RATER. With this instrument is measured:

(a) The visual acuity of each eye for distance, without glasses.

(b) The visual acuity of each eye for distance, with the employee's glasses.

(c) The visual acuity of the two eyes combined for near, without glasses.

(d) The visual acuity of the two eyes combined for near, with glasses.

(e) Muscle balance.

(f) Depth perception.

(g) Color sense.

"This is all recorded on a special form on which is noted the employee's name, age, sex, occupation and department number. While the visual survey is being conducted, a trained safety engineer makes a survey of the entire plant, including the offices, in which is taken into account:

FIG. 1. Cover page.

The Illinois Society for the Prevention of Blindness

ORGANIZATION AND AIMS...

★Since 1916, when The Illinois Society for the Prevention of Blindness became chartered not for profit for this state, it has steadily and relentlessly worked to eradicate blindness. Statistics prove that the civic leaders behind the program and the Society's field workers have not labored in vain. The most gratifying results have been accomplished, chiefly through legislation sponsored by this Society. The knowledge, experience and experience of the Society has also been extended to smaller industries to reduce preventable blindness.

SOCIAL ACCOMPLISHMENTS

Outstanding among the Society's achievements, we point to the bill enacted by the state legislature in 1929, which provides for special education for children with defective vision. Appropriations for this purpose have since multiplied to nearly twenty-times the original amount, due largely to the untiring efforts and vigilance of this organization.

The mandatory silver nitrate bill for the treatment of the eyes of new-born babies enacted in 1913—the bill for the control of trachoma in 1915—the ruling out of the retail sale of fireworks in 1940—introducing into the state budget a control for glaucoma—such are the benefits encompassed into the public program, as a direct result of the Society's activities. Moreover, the Society makes certain that methods are maintained at the same high efficiency as under the private supervision of the Society itself. The record of each new born baby, each case of trachoma and glaucoma, fireworks violations, are scrutinized by the Society for immediate attention and correction.

THIS NON-PROFIT ORGANIZATION SETS NEW RECORD

BENEFITS INDUSTRIES AT WAR

Prevention of blindness is no more important in war-time, when with personnel shortages and lack of adequate supervision industrialists in this state are becoming increasingly alert to conditions which contribute to visual inefficiency and eye accidents.

This is particularly so in cases where medium-size concerns employing around 500 persons, where medical staffs and trained safety engineers are not included with the operating management. For many such concerns, The Illinois Society for the Prevention of Blindness has made low-cost safety surveys, inaugurating remedial and preventive programs which have produced splendid results. Proper lighting, eye tests for correctible vision, specifically recommended goggles and other safety items play an important role.

A Vision Testing Service for Small Manufacturing Plants Aimed at Prevention of Blindness. Safety Surveys for Elimination of Industrial Accidents . . .

Statistics show that approximately 15% of blindness in this country is due to accidental means, fully four-fifths occurring in industry. Smaller industries are particularly affected.

The Illinois Society for the Prevention of Blindness offers to fill such voids for smaller industries. When the management is contacted, full details of methods are submitted, which, when accepted, mark the first step toward contracting for the Society's services at an extremely low cost. The benefits are manifold, as attested to, time and again, by those already served.

ILLINOIS SOCIETY FOR THE PREVENTION OF BLINDNESS
203 South Wabash Avenue, Chicago, Illinois

Gentlemen: Without cost or any obligation, kindly have your representative call to further discuss your service.

Firm Name _____

Individual and Title _____

City _____ State _____

FIG. 2.3 Folder mailed by Industrial Division of the Illinois Society for the Prevention of Blindness

THE ILLINOIS SOCIETY FOR THE PREVENTION OF BLINDNESS
203 South Wabash Avenue, Chicago, Illinois
Telephone Central 4000

BOARD OF DIRECTORS

HARRY S. GRADLE, M.D., *Vice-President* HERMAN WALDECK, *Treasurer*
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Directors: E. V. L. BROWN, M.D. STANLEY McCORMICK MRS. GEORGE T. PULLMAN
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WILLIAM S. WARD, AUDLEY W. HAYDEN, *Counsel*
F. J. ALSBAUGH, *Director of Safety, Industrial Division*

Coupon on Reverse Affords Convenient Method of Inquiry

How This Service Can Operate to Your Definite Advantage

Once engaged, and without interference with normal operations, the Society's staff conducts a visual survey of each employee. This includes:

- Visual acuity of each eye for distance, without glasses
- Visual acuity of each eye for distance, with glasses
- Visual acuity of the two eyes for near, without glasses
- Visual acuity of the two eyes for near, with glasses
- Muscle balance • Depth perception • Color sense

A medical analysis is made of such findings, which are recorded on a special form, and submitted to management. Urgent cases are started.

While the visual survey is being conducted, a trained safety engineer surveys the entire plant and offices, taking into account the following:

• General illumination • Illumination of individual operations • Hazards and night illumination • Visual hazards existing in each operation due to flying particles, dangerous dusts, obstructions and other safety factors. His recommendations when in effect can save thousands of man-hours and cut compensation costs to a minimum.

We Urge You . . . Accept This Offer . . .

Without cost or any obligation whatever, the Society will extend its consultation service to medium size manufacturers. Write or phone. Your action today can lead to this service and result in a lasting allegiance between your organization and ours.

The Illinois Society for the Prevention of Blindness
Telephone CENtral 4000

Prevent Blindness in Industry . . .

FIG. 3

(a) The visual hazards that exist in each portion of every operation of the plant, from the standpoint of flying particles, dangerous obstructions, dust, glare, and so on.
(b) The general illumination.
(c) The illumination at the point of operation on all equipment.

"THE REPORTS OF THE VISION TESTER are recorded on individual cards which may be filed with the personnel records. Information and data on these cards are analyzed both from the medical standpoint and from the standpoint of patterns of visual skills, watching designated job demands for placement purposes. Urgent cases of lowered acuity or distinct phorias are marked for immediate attention. Those who have normal vision are given a card which indicates that their vision compares favorably with the normal vision standards set by the Illinois Society for the Prevention of Blindness.

"THE AVERAGE TIME REQUIRED PER EMPLOYEE for this visual survey is about 7 minutes.

"THE REPORT OF THE SAFETY ENGINEER accompanies the medical report. In it are described the various visual hazards from operations within the plant and the type of protection requisite to eliminate such hazards. Those may be in the nature of machine guards, protective screen, goggles or whatever the exigencies of the situation demand. Suggestions are given for arranging a complete goggle program, including fitting of goggles and cleaning, sterilizing and maintenance. Areas of insufficient illumination are also described, with recommendations as to the type of fixtures and other changes necessary to correct the defect.

"THE ILLINOIS SOCIETY FOR THE PREVENTION OF BLINDNESS also offers the services of members of its staff to promulgate a safety campaign among the employees of the plant. That campaign is in the nature of posters mailed monthly, brochures on eye safety, and moving pictures of industrial accidents and their consequence. Each plant is supplied with a copy of our INDUSTRIAL EYE PROTECTION CATALOG and MANUAL giving illustrations of goggles and eye protectors and their uses; methods of maintaining, sterilizing, testing, and plans for organizing a safety program.

"THE CHARGE FOR THE COMBINED SERVICES IS $1.00 for each employee tested. The Illinois Society for the Prevention of Blindness is incorporated as a Non-Profit Organization."

A few of the many letters—entirely unsolicited—are given to show industry's reaction to this service:

THE EDWAL LABORATORIES, INC.
732 Federal Street
Chicago 5, Illinois

September 27, 1945

Illinois Society for the Prevention
of Blindness
203 No. Wabash Avenue
Chicago 1, Illinois

Attention: Mr. F. J. Almcrantz

Dear Mr. Almcrantz:

I think you will be interested to know that Edwal Laboratories have just completed fifteen months without a loss time accident. For this accomplishment we shall soon be the proud recipient of a certificate of recognition from the National Safety Council which conducts a contest each year in the Chemical Industries.

I am certain that the Visual and Lighting Survey which you conducted for Edwal Laboratories a little over a year ago has contributed a fair share toward our "No Accident" record. It is, of course, practically impossible to know how much credit to assign the various factors which enter into a good Safety Record, but the fact that your survey coincides with our first year with a frequency rate of zero certainly speaks for itself.

Yours very truly,

THE EDWAL LABORATORIES, INC.
(Signed) R. A. Lambert
Safety Director

THE McALEAR MFG. CO.
1901 South Western Avenue
Chicago 8, Illinois

August 10, 1945

Illinois Society for the
Prevention of Blindness
203 N. Wabash Avenue
Chicago, Illinois

Attention: Mr. Fred J. Almerantz

Gentlemen:

Kindly permit us to extend our congratulations and our appreciation of the splendid work you have done in surveying our plant and helping us reduce our eye accident cases.

Your job from its inception was doubly difficult, because of the numerous times we and others have tried, without success, to enforce the use of goggles.

As a matter of record, our eye accident cases have been reduced 80% in the past 90 day period, but aside from this record we find that our employees have become safety conscious and as a result other accident cases have been so drastically reduced that our insurance company commended us upon our reduction of accidents.

Decreased lost time and resultant increased production are very obvious.

Many thanks for your cooperation and may you continue your good work.

Very truly yours,

THE McALEAR MFG. CO.
(By) Doris Overfield (Signed)
Personnel Director

VAN CLEEF BROS.
Woodlawn Avenue
Chicago, Illinois

January 17, 1944

Illinois Society for
the Prevention of Blindness
202 North Wabash Avenue
Chicago, Illinois

Att: Miss Audrey M. Hayden

Dear Miss Hayden:

No doubt you will be interested in knowing what the outcome was of your survey of our plant. After receiving your detailed report concerning the eyesight of each individual examined by your representative, we advised each person as to the results obtained from his examination. A number of them took advantage of the fact that they had learned they needed to have their vision corrected with spectacles, or needed to have their spectacles adjusted to their eyes. As a consequence, we were very well pleased with the character of your work.

A very interesting experience occurred as a consequence of your investigation of our lighting conditions. We are building a new addition to our factory and when we applied for the necessary priorities to secure the lamps, there was some exception taken by the War Production Board because of what was stated to be an excessive amount of lighting required by us. However, your survey had confirmed the opinion of certain lighting engineers and when we presented your comments to the War Production Board on our lighting conditions, they yielded in giving us all of the lighting which we required. Thus your statement added authority to our request to improve our present lighting conditions and supply adequate lighting in our new addition.

We take this opportunity to thank you for the very sincere interest you displayed in making your survey. If we can be of any service to you, please advise.

Cordially yours,
VAN CLEEF BROS.
(Signed) Paul Van Cleef

Acting somewhat as a control five departments only of the Abbott Laboratories No. 7-80, 47, 6, 3 and 46 were given the same service. A resume of the combined frequency and severity of accidents is given in a table, reproduced here from their Safety News Letter of November, 1945:

ACCIDENT RECORD BY DEPARTMENTS COMPARING THE FIRST HALF OF 1945 AGAINST THE ENTIRE YEAR 1944

Combined Frequency and Severity of Accidents

Dept. No.	Entire Year 1944	First Half 1945	% Improvement
Departments Tested:			
7-80	2.18	0.03	98%
47	1.35	0.23	83%
6	7.08	2.20	66%
5	1.10	0.43	61%
46	7.54	4.75	37%

Departments not Tested:

8	2.77	0.70	75%
27	1.18	0.51	57%
73	13.39	9.62	28%
30	4.49	3.92	15%
29	0.11	0.11	—
3	1.85	1.98	7%*
9	3.32	0.08	83%*
4	0.05	1.07	200%*
54	2.60	9.01	250%*
7	0.66	3.85	480%*

*Denotes Increase

CONCLUSIONS

The following two statements seem obvious:

(1) We cannot be certain that all of the benefits which seem to have followed the survey conducted by the Illinois Society for the Prevention of Blindness are due to the survey, but the above letters and table as well as the many calls for the service from industries that have heard about how it works, leads us to believe that the direct benefits have far outweighed the costs.

(2) The indirect benefits, also, we cannot exactly evaluate.

a) The employees are encouraged to take their goggles home when they do little jobs about the house. When a man has an eye accident at home he cannot report for work and a substitute has to be broken in; this often reduces the efficiency of an entire group.

b) Increased attention to eyesight means increased pleasure in seeing and consequently a happier employee.

c) Good lighting means a cleaner shop, more pleasant surroundings and a better attitude toward the job.

d) The employees as well as the management talk to many who have not had the service and ideas of better living and working are disseminated as a wave from a pebble thrown in a pond.

e) Other safety measures are more eagerly sought and adopted.

SODIUM SULFACETIMIDE 30% SOLUTION IN OPHTHALMOLOGY

HEDWIG S. KUHN, M.D.
HAMMOND, INDIANA

OVER the past twenty years, the treatment of eye accidents (especially foreign body cases) in this highly industrialized area, has had its own special and particular worries. The era in which foreign bodies are removed promiscuously by anybody—a fellow worker or a foreman—is almost over although there are a number of small plants having no trained nurse or safety man that still allow their men to attempt the removal of a foreign body from a fellow worker's eye. If unsuccessful, these cases are then usually sent to the medical or surgical consultant for that particular industry and he is next in line for the attempted removal of the foreign body. If he, in turn, cannot get it out, the case is sent to the ophthalmologist. It has been a difficult and often a rather sad experience to teach industry, the workers, and the general medical people that any foreign body which cannot be easily removed with an applicator wound with cotton is best sent immediately to an ophthalmologist. One large plant lost three eyes in one year, all of them with nothing more originally than a deeply embedded foreign body in the cornea, but arriving at the office of the ophthalmologist with ulcers and violent infection about a week or ten days after their removal and treatment by untrained individuals. It was then that safety people and management as well as the workers began to study the entire question of handling cases of foreign

bodies embedded in the cornea. In the first place, unskillful removal often denudes the corneal epithelium so extensively that even without infection, the healing process being delayed, results in a thin nebulous clouding of the cornea at the site of the foreign body. This cloudiness, if in direct line of vision, itself causes a definite, highly compensible and unnecessary loss of vision. In the second place, there is the constant danger of infection of the denuded area with subsequent ulcer formation. This has always been a serious worry and danger.

Colonel R. M. Dickson, director of the Ross Foundation in Scotland who studied the coal miners, reported at length the complications following the removal of foreign bodies among miners requiring hospitalization because of the frequency of infection and of ulcer formation. This involved in too many cases a considerable area of the cornea. Dickson reported that he had sharply reduced the incidence of ulcers among these miners by the use of 10 per cent sodium sulfacetimide, which in England, went under the name of "Albucid."

The mills in this great industrial area of northern Indiana and just across the state line in Illinois, were going full blast in response to the vastly accelerated war production demands. "Time off" of work for any worker was a serious problem. There are steel, chemicals, soap, high octane gas, armor plate and oil industries among many that present a vast diversity in type of eye hazard. In addition to this, the loss of vision or the loss of an eye was (and is) a very serious menace. Eye protection equipment during the war lagged far behind its need and demand, so that foreign bodies of the cornea became increasingly frequent. While there had been no serious complications, if rules were obeyed, in the four or five years preceding the war, we were anxious to anticipate a possible increase of trouble. We already knew of certain factors that *would* increase the incidence of eye injuries. The body resistance of men working long hours, seven days a week, was lowered so that minor injuries became a major problem. There were many unskilled, or only partially trained men, working in spots where eye hazards existed and were, through inexperience, more vulnerable. And, we knew that with industry manned to capacity, the total number of cases would be increased. Contacting both Dickson in Scotland and the Schering Corporation in England, we urgently requested some of their product for use in our clinic. This was sent by air mail and by ship during the tense days of the Atlantic submarine war, in the hope that one or the other of the bottles of crystals would reach us. Fortunately, they both reached us and we immediately changed our routine in handling foreign body cases to include the use of sodium sulfacetimide, 30 per cent solution, following the removal of a foreign body, as drops for three days every four hours. Later, when an ointment base for sodium sulfacetimide was prepared for research purposes by Schering Corporation in this country, we used this medication at night during sleeping hours in those cases in whom there was any suggestion at all of a mild or active conjunctivitis. From there on, we had no secondary infection at the cite of *any* embedded foreign body which we ourselves removed and which had not been handled by anyone else. Sodium sulfacetimide is a salt freely soluble in water. It can be made up for use as drops in a stable neutral solution with a pH4. The claim made that neither the drops nor the ointment were irritating has been amply substantiated in our hundreds of cases. Furthermore, we have not had a single allergic reaction to this preparation. This has not been true of the usual sulfa prep-

arations. The number of visits a foreign body case had to make to our office, before we could safely discharge it, was cut materially after we introduced the use of this preparation as routine in foreign body cases.

Smears and cultures are made routinely on all conjunctivitis cases seen in our Clinic. There was no sharp line of demarkation in the acute cases indicating that sulfacetimide was effective with one type of infection and not with another. Due to the heavy volume of work, it was impossible to keep complete detailed information on each individual case as we had hoped to do, and as we have done in every other instance of research for new drugs. One of the things we regretted most not being able to do, was to try to set aside cases in order to run controls. We did not dare treat one industrial worker with a foreign body as a control, risking his being off of the job extra hours because of a slower response and recovery. One thing we can use as positive information in that direction, however, is the fact that the total number of cases, out of all "company cases" (foreign bodies), an exceedingly low percentage paid more than two visits to our clinic. Our routine, as set up, makes two visits mandatory — the visit in which the foreign body is removed and treatment outlined, and a second visit to be *sure* that everything is in order. A much larger percentage of cases were discharged after this second visit after the use of sodium sulfacetimide routinely than during any period before its use.

Our experience with any medication (drops and ointments) has been such that ointment must be used during the night. It is difficult for any worker to use ointment during work hours as it is messy, blurs vision and is a source of considerable annoyance. If ointment is indicated during work hours, we prefer to fill the conjunctival sac with ointment and close the eye with a patch.

It is our intention, as soon as sodium sulfacetimide is released by the Schering Corporation in this country, to advise its use in first aid stations of all types of industry. Here, it could be used as routine medication following the removal of foreign bodies in the plant and for use in cases of mild sub-acute conjunctivitis that come to the first aid stations or to the medical department of the plant. We feel that there is at present a rather dangerous tendency on the part of first aid stations in industries in the handling of eye cases to *over medicate*. The use of sulfathiozole ointments and penicillin drops and ointment in mild cases, we feel to be an entirely irrational procedure. This is true for two reasons: the first one, that a mild conjunctivitis responds in 2-3 days and easily, to such things as 1,000 oxycyanide or to the 10 per cent sodium sulfacetimide or to the ¼ per cent zinc sulphate drops and therefore need not and should not be exposed to more stringent medication. Secondly, the percentage of individuals allergic to heavily loaded sulfa compounds and to penicillin in all forms used locally, is considerable. What is more important such an allergic reaction often can be and is very violent. In view of the above, the fact that to date, at least, the sodium sulfacetimide preparation never having shown an allergic reaction, seems to make this an especially effective preparation for *routine* use. We, however, realize that reactions undoubtedly will occur and need to be watched for.

SUMMARY

1. In view of total volume of cases, our eye worries prior to use of sodium sulfacetimide were much greater relative to secondary infection.
2. In view of the sharp drop in total visits to the clinic from four or five

in each case to a maximum of two in most instances;

3. In view of the total absence of any allergic reaction (to date);
4. In view of the almost startling recovery of acute conjunctivitis cases if seen within the first twelve hours;

We feel that we have in this preparation an exceedingly valuable contribution to the handling of foreign body cases and cases of acute conjunctivitis. We hope that in the further study of this drug in chronic cases that this less toxic drug can prove to be a valuable addition to our pharmacopeia.

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The Otologist's Role in the Fitting of Hearing Aids[1]

The following statement is sponsored by the Committee on the Conservation of Hearing, a standing committee of the American Academy of Ophthalmology and Otolaryngology. The statement attempts to crystallize for the Academy members the principal ideas brought out in a discussion of the topic, The Fitting of Hearing Aids, at the committee meeting June 9th and 10th, 1945.

1. Most otologists are not satisfied with the small amount of help they give patients in need of a hearing aid. They realize it is not practicable to devote to each such patient the minimum of several hours of time, scattered over a period of several weeks, necessary to carry out the procedures successfully used in the special Army and Navy hospitals for rehabilitation, nor in most instances to refer the patient to one of the few civilian clinics that specialize in the fitting of hearing aids. They realize also that it is not practicable to have, and to maintain in working order, a stock of the various makes and models of hearing aids, one or the other of which might best fit the needs of occasional patients. Otologists do feel, however, that they should be able, without an unreasonable expenditure of time, to do more for the afflicted patient than to tell him he needs a hearing aid. The committee agrees with that attitude and believes it is practicable for otologists, even in isolated communities, to be of real assistance to a patient in the selection of a hearing aid.

2. Any otologist can, in a few moments, impart helpful and correct information about hearing aids. Simply to say "Shop around till you find an instrument you like" is of no value to a patient; he would have done this anyway. It is of value, however, to explain to a patient, before he starts shopping, the basic differences between types of hearing aids, how much help he may reasonably expect to get with an aid suitable for the degree of impairment he has, and some of the difficulties he will probably have in using an aid. It helps also if such explanations are made in terms the patient can understand. For example: Most patients know something about a public-address system, as used in large halls and at athletic contests; therefore they comprehend quickly the general idea of the vacuum-tube air-conduction hearing aid if it is likened to a miniature public-address system, with an ear receiver substituted for a loud speaker. They also know that a voice heard over a public-address system does not sound the same as does the voice heard directly from a short distance, and recognition of this fact can prepare a patient for the experience that voices heard through a hearing aid sound peculiar but are nevertheless understandable and can be made loud enough to be heard with ease from a considerable distance. Such statements are better understood, and can be made more quickly, than can those which include the use of terms such as amplifier, linear amplification, distortion, decibels, etc. Furthermore, it is helpful to a patient, before he starts shopping for a hearing aid, to be told by his otologist, in whom he has confidence, that in general the aid which will help him most in the long run is the one that brings in the most sounds, both the ones he wants to hear and the ones he does not wish to

1. Submitted by the Committee on the Conservation of Hearing.

hear. Most hard-of-hearing patients have forgotten, if they ever realized it, that a person with good hearing lives in a world of noise, most of the components of which are of no importance to him and to which he has to learn to pay no attention. Recognition of this fact, in advance of having the experience with a good hearing aid, prepares the patient for what otherwise often is startling and disagreeable to such a degree that a weak aid, or one with a limited range of frequencies, is purchased instead of the good instrument, i.e., the one which will help him most after he learns to neglect the sounds he does not care to hear.

3. Many patients do not realize that final selection between hearing aids should be made by testing them in the surroundings in which the aid is to be used, not only in the dealer's office room or at home. If necessary, a small rental fee for the opportunity to make such a trial is a good investment. In addition, it helps assure the selection of a suitable aid if the patient understands, before he starts shopping, that the use of an individually fitted ear-piece (or mold) improves the performance of any air-conduction hearing aid, as well as causes less discomfort. Stock ear-molds usually do not fit both comfortably and snugly. If spaces are present between the walls of an ear-mold and an ear canal, part of the sound escapes. The escape of part of the sound not only reduces the amount that reaches the tympanic membrane but also, if the instrument is one of the more powerful ones, causes "squeals" to be heard, due to regeneration through the circuit of the instrument. Practically all makes of hearing aid receivers fit any ear-mold, and it is a good investment for a patient to have an individual ear-mold made, as a separate purchase, before starting the round of trying out the aids available in the market to which he has access. Often the otologist can, on this point, do more than offer the advice; he can also take the impression from which the individual ear-mold can be made by a dental laboratory or by a dealer in whose integrity the otologist has confidence. There are several central laboratories to which otologists of the whole country can send impressions direct, to have ear-molds made. This information may be obtained from the A.M.A.

4. The perennial question as to how much impairment a patient should have before a hearing aid should be recommended, of course came up in the committee's discussion. The consensus was that the familiar rule of 35 decibels or more of impairment of thresholds across the speech range (512 to 2048 or 2896 cycles) is as good as any, provided one realizes there are numerous exceptions to the rule and that the exceptions may be in either direction. The really decisive factor that determines whether aid should be advised is the amount of disability, economically or socially, the patient suffers from his impairment of hearing. In other words, each patient is an individual and his problems and difficulties should be evaluated individually, as in other fields of medicine, and the probable advantages and disadvantages of the proposed therapy explained in understandable terms. Any experienced otologist can cite numerous examples to illustrate how any rule on this question needs modification to suit circumstances.

5. With respect to what type of hearing aid should be recommended, there was excellent agreement. Briefly stated, the opinion of the committee is (a) that the improvements of the past few years in wearable size vacuum-tube aids have made carbon-microphone aids obsolete (except possibly for persons who need very little amplification of sounds) and (b) that vacuum-tube aids with air-conduction receivers should be tried by all patients except those for whom the

wearing of an ear-mold is contraindicated by a purulent otitis media, by an infection or an eczematous condition of the external auditory canal, or by an atresia of the canal. Such persons must of course use bone-conduction receivers. The reason for advising a trial of air-conduction receivers by all persons who can wear them is that experience has shown that speech is usually understood better, even by patients with pure conductive impairments, through a vacuum-tube aid with an air-conduction receiver than through a bone-conduction receiver, whether the latter be attached to a vacuum-tube or to a carbon-microphone circuit.

In summary, the recommendations of the committee are:

I. A hearing aid is indicated when the following combination of circumstances exists:

a. The threshold of hearing of the better ear is impaired across the speech range by 35 decibels or more.

b. The impairment is not of a transient nature or rapidly remediable by medical or surgical measures.

c. The hearing impairment is a handicap in the patient's occupation or in his social life.

II. The otologist should advise the patient with respect to:

a. How much help he may reasonably expect a suitable aid to give him. This information should be stated in terms of the patient's activities, not in decibels.

b. The difficulties he is likely to encounter in learning to use an aid.

c. The importance of learning to lip-read, to supplement the use of an aid.

d. The type of hearing aid that will probably prove most satisfactory. The choices, in order of decreasing frequency with which the respective types have proved satisfactory in recent years, are: vacuum-tube aid with an air-conduction receiver, vacuum-tube aid with a bone-conduction receiver, carbon-microphone aid with either type of receiver. A bone-conduction receiver should be advised for patients with local contraindications to the use of an ear-mold.

e. Where he has the best chance, local conditions being considered, of getting fitted with a suitable hearing aid. If it is practicable for the patient to go to a reputable hearing-aid clinic, he should be referred to it for fitting and trial of instruments. If the services of such a clinic are not available (and in most communities they are not), the patient should be referred to the local chapter of the American Hearing Society, or local dealers in whom the otologist has confidence, and should be advised to try the different instruments not only in the dealers' offices but also under the conditions of his own daily activities. Furthermore, the patient should be told that the use of an individually fitted ear-mold improves the performance of all air-conduction hearing aids, that most makes of receivers can be attached to any ear-mold, and that it is worth while to get his own ear-mold before trying out the different instruments.

III. The otologist should urge the patient, for his own welfare:

a. To return for a check-up of the instrument which seems to him most satisfactory, before concluding its purchase.

b. To return thereafter at intervals of a year or so for otological check-ups and for advice as to possible new improvements in hearing aids.

c. To study lip-reading and, if possible to arrange for it, also to take lessons in the use of his hearing aid. Neither acoustic training nor lip-reading improves the actual acuity of hearing, but they do help patients understand the meaning of the sounds that are heard.

INDUSTRIAL OPHTHALMOLOGY

INTRODUCTORY STATEMENT

The increasingly wide-spread use of statistical procedure in analyzing the several so-called visual skills or visual functions (whichever term one is inclined to use) resulted in starting new investigations in a number of directions. One of them is in the field of safety as related to vision. Statistically speaking, the evidence that visual factors play a direct part in accidents has never been conclusive. Most of the rather rigid rules of non-visual qualifications laid down in dangerous occupations were always on the basis of assumptions. Stump has shown how we need to approach this particular field and demonstrated at least the beginning of direct confirmation of relationship between adequate visual functions and accident proneness. How far this will hold, we do not know yet, but we need to know such investigative procedures as outlined in Stump's paper to show us the way to the facts.

C. P. Tolman, in his paper, has pointed out a few of the angles that are often overlooked by management and which the eye consultant should call to their attention. While it is true that the use of the individual's personal prescription is not always proper for prescription goggles or occupational lenses and that glasses for ordinary reading use would be of little value when reading micrometers at distance or when doing certain types of inspection, a word of caution is wise here. Correction for exact *work distance* could *be exploited and become the basis of a racket. The majority of work distances in any plant in an ordinary industry are not too different from our every day life. But these special near work distances that come inside the range of* 14" *to* 16" *or outside (arm's length) are usually the critical occupations of any particular industry, therefore, their importance is out of all proportion to their actual number. The same holds true for dangerous occupations. For instance, many crane operators are allowed to wear their bifocals with an added risk of blur when they are in their cabs and operating over workers below. The refractionist needs to always remember the range of the near work and balance it against the range of the individual correction. This is not always a point. Unless the individual has entirely lost his power of accommodation, he has considerable leeway.*

To point out how little was known six years ago about visual skills or even normal physiological functions by our government agencies setting qualifications for certain jobs, I should like to quote the following: "Every clerk should be able to see 20/20 *for distance and for near* without *correction". It never dawned on these officials (some of whom were medical men but not ophthalmologists) that that would automatically exclude almost everybody over forty years of age. Presbyopia is a normal condition correctible by glasses. Had the ruling gone through, it would have eliminated all older persons from the very type of job that they can do well. The majority of clerks might well be in the upper age bracket. The scientific study of visual functions such as outlined in the papers in this Section of the Transactions has done much to clarify this type of fuzzy and uninformed thinking.*

Some day we do need to get to the place where we can combine all the various specialties which are necessary to the solution of industrial eye problems into one program. Then will we have reached the stage in which all of this work will be a minimum nuisance to management and to the worker. The engineer understands how to change mechanical conditions to assist in adjusting machines to visual problems; the safety man understands the hazards both to and from eyes (defective vision); the visual analyst sees jobs in terms of their separate visual skills forming combinations making for best performance; the illuminating engineer contributes a scientific analysis of special work with special lighting problems as well as over-all lighting. So, perhaps some day, a joint recommendation could be made to management. Then we will have reached the stage of integrated study and progress

Dr. Kutscher's article on Radiation Research points to one of the many important spots that need further and immediate research. His contribution is very timely and excellent and we hope will further stimulate work throughout the country. The practical, scientific evidence of what ultra-violet and infra red will or will not do to an eye under varied conditions, is far from being

weighty enough at present to impress Industrial Commissions in the settlement of alleged ultra-ocular pathology from exposure to various types of radiation. It is difficult to properly protect either the employee who may rightfully qualify for compensation or to protect management and insurance companies. A malingerer may rather easily with a radiation claim collect, because we lack the necessary evidence to prove that the existing pathology could not have come from radiation. We feel that Dr. Kutscher's paper belongs in the hands of every ophthalmologist doing industrial eye work and have therefore asked that it be reprinted from the Journal of Industrial Medicine for this reason.

HEDWIG S. KUHN, M.D.
Secretary, Joint Committee
Industrial Ophthalmology

HOW OPHTHALMIC EYE-CARE CAN PREVENT MANY INDUSTRIAL ACCIDENTS

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INTRODUCTION

SAFETY engineers have always shown an interest in methods of procedure which may result in the reduction and prevention of injuries due to accidents. Since they have taken the attitude that "Safety is Everybody's Business" they have received the benefits of thorough and objective thinkers both inside and outside the specific field of safety. The greatest achievements which can be made in the prevention of accidents are, however, definitely in the future. When the recently discovered objective facts which point to the opportunities for service in the reduction of accidents are known, safety engineers will grasp the challenge to really discover for themselves what new causes of accidents can be found. The opportunities for service are all around us, calling for prevention of accidents in manufacturing concerns, on the highways, and in the home. The safety problems are crying out for immediate solution.

Here is the challenge. Fully 98 per cent of industrial accidents are preventable. Yet, in almost every area of activity, where accidents can happen, injuries are on the increase. Industrial management and the general public are seeking and eventually may demand some solution to this problem.

In the most recent studies of accident causation the safety engineer has been calling upon the services of the ophthalmic professions. If the safety engineer is going to change his safety record rapidly for the better it will be absolutely essential for him to call upon the ophthalmic professions for assistance, as the experimental data in this paper will indicate.

HUMAN FACTORS—THE HUB OF THE SAFETY PROBLEM

Vision is just being recognized as one of the most important of all human characteristics. It will be desirable in the future to know more thoroughly the human characteristics of each individual worker. These characteristics which have received small consideration in the past, are unquestionably important factors in accident prevention. One authority has said: "Approximately 10 per cent of all industrial accidents may be attributed to inadequate mechanical or machine guards, and 90 per cent to human errors or defects." Even though human factors are nearly 10 times as significant as the mechanical, yet little effort has been expended in the understanding of human characteristics as related to safety.

Psychologists are agreed that each person possesses the same human characteristics. They are also agreed that differences found between individuals are not due to one possessing one set of

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traits and another quite a different set. *The differences found are due to these various individuals having unequal amounts of these traits, which produce assorted patterns of performance.*

Since the amount of a trait is so essential, this calls for a yardstick for classification. It is the adequate classification of visual performance and its relationship to safety in which we are especially interested here.

Attention to visual performance helps the individual employee quite as much as it does management. Any method which increases efficiency of the worker, and at the same time gives him comfort at his work is a real service and creates a better attitude toward his work.

It has been established that 80 per cent of all human motions are controlled by the eyes. Yet, the average worker does not think of his eyes until he experiences blurred vision, headaches, and other discomfort, loses a finger or is fired from his job because of mistakes. The facts make better eye care imperative. Workers who get professional eye care when needed become healthier, happier, calmer, and safer individuals.

The purpose of this paper is to answer several pertinent questions about visual performance.

1. What tangible evidence is available to show the relationship between visual performance and safety?
2. How has a comprehensive visual program built desirable relationships between management and employees?
3. Since injuries happen after machines are fully guarded, does this fact not point to the need of stressing human characteristics or the psychological factors, visual performance being one of them?
4. To what extent can injuries be decreased, by giving proper attention to visual performance?
5. Is it possible to predict, at employment, by visual performance, which individuals on the average will accumulate the largest degree of accident experience on the job?
6. Do accident-free individuals on the average have significantly better visual performance than serious injury employees?

A FACT-FINDING SYSTEM OF VISUAL PERFORMANCE

Tangible evidence is now available to show that accident-prone workers do not have the efficient visual skills held by the accident-free. This statement is possible because a fact-finding system, which bases its conclusions on the *kinds* and *degrees* of visual performance required for safety, has been practically applied in a number of situations. In such a procedure subjective evidence based on opinion will give way to objective evidence based on a factual approach.

Before we can say that depth perception or stereopsis is necessary for safety, much evidence should be presented and experiments repeated, under similar conditions and with similar controls.

Scientific procedures, *which establish standards to determine how the various vision tests discriminate and predict for severity of accident experience*, are imperative if we are going to arrive at a solution to the difficult problem of accident prevention.

AN EARLY EXPERIMENT RELATED MUSCLE BALANCE TO SAFETY

A pioneer study was made at Purdue University by S. Edgar Wirt, Ph.D., namely, that the serious injury individual tends to overconverge at far distances and underconverge at near distances. This pioneer study kept alive in the minds of a few individuals an idea of definite trends which indicate the

possibility of a relationship between muscle balance of the eye and safety. (Figure No. I.)

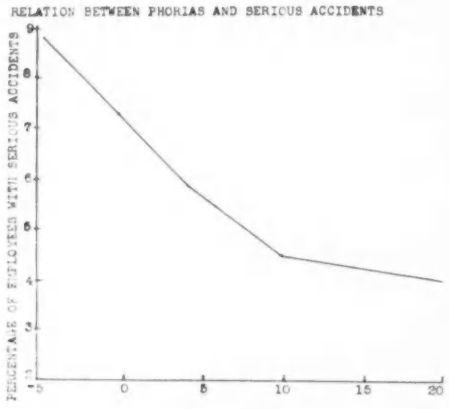

FIGURE I—The greater the plus relationship between lateral phoria at far and at near, the fewer the serious injuries.

INDIVIDUAL CASES OFFER INTERESTING EVIDENCE

After the pioneer experiment at Purdue, more extensive controlled experiments were undertaken with other visual performance tests, such as are found in the Ortho-Rater.[1] These studies were performed in industrial plants at Rome, New York, and at Detroit.[2,3]

Standards of safety were determined statistically. It was discovered which of twelve visual performance tests discriminated between accident-free workers and serious-injury individuals.

In Figure No. II, the desirable limits of visual performance are outside the shaded area.

Here is also represented the *visual pattern of an accident-free worker*. This employee worked on a job where plenty of opportunity was available for accidents. Note in visual acuity, as well as depth and also the inter-relations of other tests, this employee is well above the visual performance standards for safety.

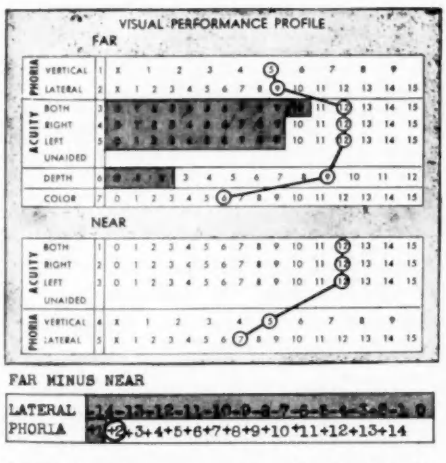

FIGURE II—Visual performance profile of accident-free worker, showing that he meets visual safety standards. Scores outside the shaded area are desirable.

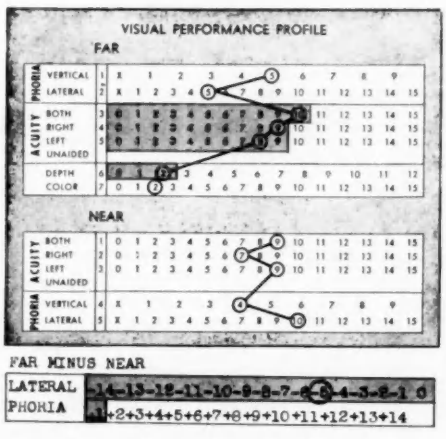

FIGURE III—Profile showing serious-injury worker who is below visual safety standards.

Figure No. III shows a *serious-injury worker* who is below visual standards in both eyes, right eye and left eye all at far distances. A score of 2 in depth is 1 point below standard; a -5 is much below standard when muscle balance at far distance is related to muscle balance at near distance.

Figure No. IV represents a high-frequency-of-minor-injury worker. He is

below the standard for both eyes, right eye, left eye, all at far distance. His score on depth perception is 1 point below standard. A -9, when muscle balance at far distance is related to muscle balance at near distance is characteristic of the accident type.

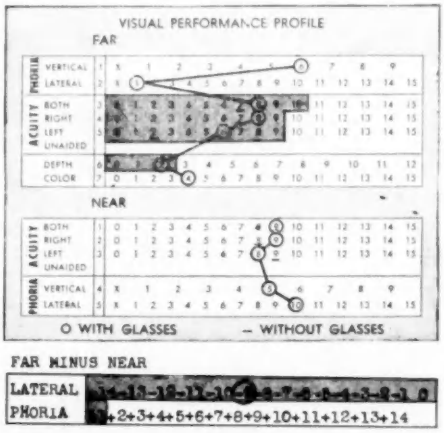

FIGURE IV—Profile of high-frequency-of-minor-injury worker who is below the standard for both eyes; right eye; left eye—all at far vision. His score on depth is 1 point below standard. A-9 score on near lateral phoria subtracted from far lateral phoria is characteristic of the accident type, a — 2 score being standard.

VISION FACTS STATISTICALLY TREATED APPLIED TO GROUPS

Three separate groups were compared —an accident-free group, a high-frequency-of-minor-accident group, and a serious-injury group.[4]

Separate tests in the Ortho-Rater for these three groups were chosen to show the per cent of employees who were above the visual safety standard and those who were below the standard.

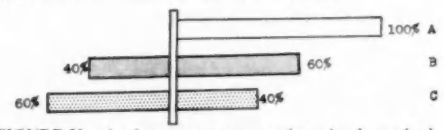

FIGURE V—As the percentages meeting visual standards increase, the percentages of accident-free increase, in acuity at far, both eyes.

(Figure No. V.) In these bar graphs it is clearly shown that a considerably larger per cent of *accident-free* employees meet the standards, as compared to the *high-frequency* and *serious-injury* groups. In acuity at far, both eyes, 100 per cent of the accident-free group reached a score on this test of 10 or better (Bar A), 60 per cent of the *high-frequency* reached this standard (Bar B), and only 40 per cent of the serious injury reached (Bar C). Sixty per cent more in accident-free group meet the standard than in the serious-injury group.

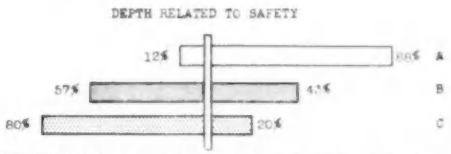

FIGURE VI—A much larger number of accident-free, as compared to serious injury meet the visual standard on depth.

Figure No. VI shows results when taking depth perception or stereopsis of 5 on the Ortho-Rater. These relationships for the various groups are 88 per cent, 43 per cent, and 20 per cent. There are 68 per cent more who pass this test in the accident-free group than in the serious-injury group.

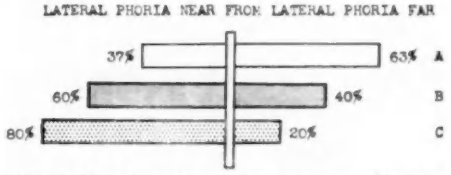

FIGURE VII—Forty-three per cent more accident-free are up to or above the standard when lateral phoria near is subtracted from far.

Figure No. VII shows muscle balance at far distance related to near and there is a similar trend as the above examples: 63 per cent; 40 per cent; and 20 per cent for these same accident groups. Here 43 per cent more accident-free are up to or above the standard of plus 2.

Figure No. VIII, with acuity—at far-better eye—shows a similar trend of 88 per cent, 64 per cent, and 40 per cent.

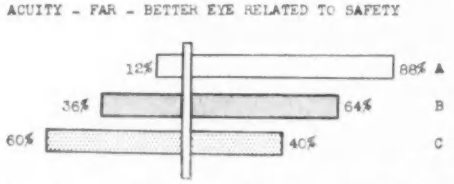

FIGURE VIII—Acuity at far—better eye—indicates an advantage in favor of accident-free individuals.

Now, several examples have been offered which point out that this constant drop in percentage of those passing certain specific tests could scarcely be due to chance. These relationships seem to be an established reality.

Two independently conducted experiments were performed in different parts of the country under similar conditions of controls. In these experiments age and education were held constant for each of the groups. Both experiments resulted in surprisingly similar results in the kinds of visual performance tests which came through as well as the degree of visual performance desirable for the accident-free employee.

Even though the second study furnished a definite check on the first, a further check-up looking at the data from another angle, was attempted now using the entire pattern of visual safety standards. An attempt was made *to predict by means of a complete pattern of visual standards which new employees*, on the average, would accumulate the largest number of accidents. *These predictions were made at employment.* The following facts were taken from this follow-up study.

FOLLOW-UP STUDIES AGAIN VERIFY PREVIOUSLY CONFIRMED EXPERIMENTAL FINDINGS

Practical research has been characterized by a desire of the researcher to look at the same data in an orderly manner from many different points of view. This part of the study determined the

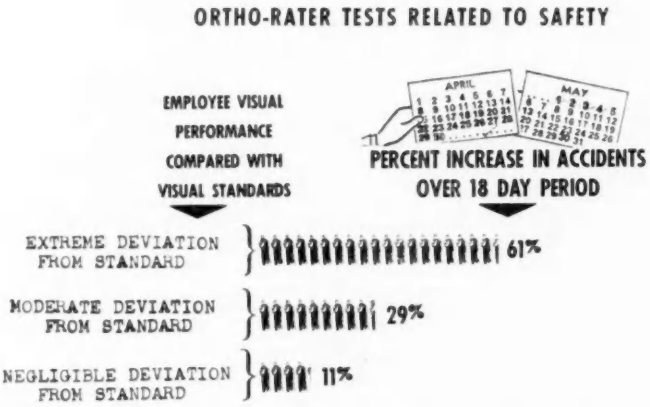

FIGURE IX—Employees who deviate most from the safety visual pattern have the greatest accumulation of accidents.

deviation from the visual standard, taking the standard card and comparing each individual pattern with this standard. For example, if the employees fell below all vision standards or passed only one test, then these were classified as the *extreme deviation group*. Those who passed 2 to 5 tests were classified as the *marked deviation* group. Those who passed 6 to 8 tests in the battery were classified as those with *negligible deviation*.

It is shown in Figure No. IX that the new employees with the greatest deviation from the visual standards had the largest accumulation of accidents.

In 18 days:

1. The extreme deviation group from the standard had accumulated accidents of 61 per cent.
2. The marked deviation group had accumulated 29 per cent.
3. Those with negligible deviation had accumulated 11 per cent.[5]

For this 18 day study this means that the extreme deviation group from the standard had a 50 per cent greater accumulation of accidents than the negligible deviation group.

According to the law of averages it might be expected that these three groups would equalize themselves provided the study were continued over a longer period of time. The study was continued for 20 more working days. These results are shown in Figure No. X. It is interesting to observe that the extreme deviation group had accumulated 106 per cent while the negligible deviation group had only a 31 per cent accumulation. Now the extreme deviation group accumulated 75 per cent more accidents than the negligible deviation group. By adding 20 days it separated these groups by an increased 25 per cent.

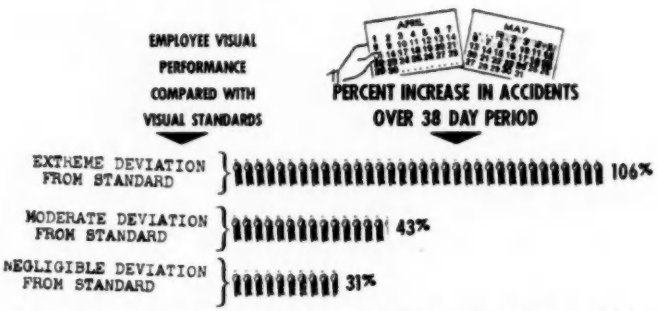

FIGURE X—The number of accidents accumulated by those with greatest deviations from standards become increasingly large as time in working days pass, as compared to those with negligible deviations from visual safety standards.

PROFESSIONAL EYE-CARE IN AN INDUSTRIAL VISION PROGRAM

The ideal might be reached when we can say that all industrial workers have "good" vision. We are using "good" vision in the same sense Dr. Albert C. Snell has used it in an article in the *New York State Journal of Medicine*. He said: "Good vision is that degree of visual functional ability which is adequate to perform the visual task presented."[6]

Without visual standards for specific jobs this ideal could never be met. But fortunately through the establishment of a fact-finding system standards have been set for hundreds of jobs in scores of industrial organizations.

The need for professional eye-care is pointed out in Table I. Here are represented the per cent of employees who wear glasses in the above three accident groups. Of those who had *negligible deviation from the visual safety standard*, 86 per cent did not wear glasses. This is what we could expect

Below Safety Standard In Certain Number Of Visual Tests	Do Not Wear Glasses	Percentage Always Wear Glasses	Wear Correction Irregularly
6, 5, 4 and 3	57	33	10
2, 1 and 0	86	14	0
8 - 7	64	26	10

TABLE I. A large proportion (64 per cent) of those employees not meeting standards likely could profit greatly by ophthalmic services. Industrial management should refer these cases for professional attention.

from logic. On the other hand only 26 per cent of those employees *with extreme deviation from the standard* were wearing some form of correction. This means that a large proportion of the 64 per cent may benefit from professional ophthalmic services. It may be that the 10 per cent who wear correction irregularly would also benefit by a visit to professional eye men.

Studies of eyesight in factories reveal that persons with uncorrected visual inefficiency are more prone to accidents than workers with efficient visual performance. Eyestrain causes fatigue, nervousness, and lowered alertness.

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EYE CONSERVATION AND INCREASED PRODUCTION[1,2]

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THE VALUE of eye conservation as an element of good management and particularly from the standpoint of its value to management is shown in this paper. In so doing I am not belittling or overlooking the humanitarian aspects of eye conservation which is the point of interest of the National Society for the Prevention of Blindness.

The dollars and cents aspect is emphasized because as company officials you not only may but must spend money and time on any factor which produces a profitable return, whereas there is some question as to your authority for similar expenditures for purely humanitarian reasons. I hope to convince you that the program for conservation and utilization of eyesight in industry will bring as great, if not greater, returns on the investment of time and attention as any other element of scientific management, because every step toward visual efficiency is a step toward the conservation of eyesight.

1. Presented before the New York Chapter of the Society for the Advancement of Management, Time and Motion Study Committee, in cooperation with the New York Trade School, April 17, 1946.
2. By permission of "Modern Management."
3. Consulting Engineer, National Society for the Prevention of Blindness, 1790 Broadway, New York, N. Y.

There appears to be an industrial blind spot with respect to the importance of vision as a factor in production.

On many occasions I spent months of time to save a fraction of a per cent in some industrial operation. I was deeply chagrined when, in the course of this study, I learned that through improvements in visual conditions in industry vastly greater productive results could be realized between a Saturday night and Monday morning. Furthermore these gains were always accompanied by conservation of the eyesight of the workers.

The situation will become apparent to all of you in a quote from Mr. Donald Nelson, then Chairman of the War Production Board, who said in his letter to American Industrial Executives: *"When a job needs vision a man cannot work better than he can see."* When we also note that in the average industry approximately two out of every five workers need eye correction in order to see well enough to do their best work, the conclusion is obvious.

In specialized industry the proportion of visual deficiencies is even greater. For example, the extent of subnormal vision among workers in various industries is reported by Dr. Leo M. Mayer, inspector of optometry for the State of New York, as follows:

Industry	*Percentage Having Faulty Eyes*
Garment workers	75%
Office workers	53%
Textile workers	52%
Army applicants	21%

Low production and high spoilage are natural results of bad vision or bad "seeing" conditions. "Seeing" conditions are not just a matter of the acuity of a worker's eyes. The term includes illumination, color and reflection factors in the work area, and to some extent the matter of job assignment. This matter of job assignment brings in a number of factors which have been too commonly overlooked. Our tendency is to think of vision solely in terms of the sharpness or acuity with which an object is seen. However, in industry it is necessary to think of other visual factors—specifically muscle balance which is the proper coordination of both eyes; color discrimination for red-green and for blue-yellow; depth perception which is the judgment of distance. In order to see his job, industrially speaking, a man must not only have sufficient acuity of vision but he must also have such of these other properties and in such degrees as the job requires. For example, a crane operator cannot "see" to perform his job if he lacks depth perception because he could never be sure of clearances in carrying or landing his load. Similarly a worker having deficient color perception would not be able to "see" in the sense of seeing to connect radio apparatus in which the wires are identified by various colors and combinations of colors.

We are told that over 90 per cent of persons with deficient vision can be brought up to a satisfactory level by proper glasses. Here we meet with another very common oversight. Many managers with the very best of intentions have provided prescription goggles for their employees, but unfortunately have used the worker's personal prescription—that is to say the prescription given to the worker for reading purposes. Reading glasses are designed for use at a distance of 14 to 16 inches. In the older workers (over 40, that is) such glasses are of little use unless the work is being done at that distance. In some cases the reading glasses are entirely useless for the worker at his job. In other cases such as bench work the worker can use the glasses, but at the expense of a fatiguing posture because he has to

bend over in order to bring his eyes and glasses within "reading" distance of his work. On the other hand a prescription for bench work would enable him to stand erect at the bench and be less fatigued at the end of the day.

Lighting and color are close partners in the improvement of visual conditions. This means not only enough light but light without glare. Paint of the proper colors and reflection factors actually increases the effective candle power of illumination. Furthermore this increase in illumination is twofold. It can actually be measured on a foot-candle meter but in addition to this the greater visual comfort enables the eye to see more comfortably than would be possible with the same raised candle power and in the absence of adjusted reflection factors.

MANPOWER IN INDUSTRY

The critical shortage of manpower during the war forced management to study this problem along broader lines than ever before. It was necessary to use every available man to the best advantage. Lacking enough able-bodied men to fill every job, it became necessary to study jobs from the standpoint of the minimum physical requirements necessary for the acceptable performance of the job. Industry learned what rehabilitation agencies had been practicing for years — that is that practically every man is employable if he is intelligently placed. In respect to eyesight many plants demonstrated that workers with vision ranging all the way from perfect to total blindness are employable. The Office of Vocational Rehabilitation published a collection of letters received from employers of blind personnel. Many of these letters tell us that the blind workers perform even better than workers with full vision—with greater output and with less absenteeism. This lesson should not be forgotten in peacetime.

MEN OVER FORTY

We shall never know to what extent the habit of blacklisting men over forty is due to lack of care of the eyes. It is probably a survival of old-time experience when only a few of those who needed glasses could afford to buy them. There is today a strong reluctance on the part of industrial workers to wear glasses because it seems there is a popular superstition that glasses are a sign of age and physical disability which may affect their employment. This is the beginning of a vicious cycle because through the lack of glasses after they have reached the bifocal stage their work does deteriorate in volume of production and in quality. This condition tends to sustain the old-time superstition. The condition is always tragic both from the standpoint of the individual and that of his employer.

In the vast majority of American industries (92 per cent as nearly as we can place it) there is no routine procedure for checking the vision of men reported for bad production before they are demoted or discharged. This is truly an appalling situation for the man, for his employer, and for industry at large because according to insurance actuaries the proportion of men in the older age bracket is steadily increasing. We should also consider the effect on the national economy for retiring men or reducing their earning power unnecessarily when they approach fifty years of age.

Here is an example: In a plant employing 8,000 men the safety supervisor was going through a department with the foreman. The foreman pointed out one of the older workers and said that he was a good deal upset because the man's production was about one-half what it should be and his spoilage was double the amount tolerated, and that he would have to recommend his discharge. He went on to say the man's wife had been desperately ill and

was gradually recovering through a long convalescence, all of which had exhausted the family savings. There were two children in high school. The foreman realized that discharging the man or demoting him would so reduce his earnings that the wife would not be able to have proper care and at least one of the children would have to leave high school and go to work. The safety man went over and talked to the worker and was able to see that the man needed glasses. He asked the man about it and he said, "Yes, I know I need glasses but I cannot afford them." The man was provided with a pair of safety glasses ground with a prescription suited to his work *at a small cost to the company*. Ten days later the foreman called the safety man and told him that the man's production had doubled and that not one piece of his work had been rejected during the entire period. While this is a marvelous example of team work between management and labor, let us note that it was only by pure chance that attention was called to this man and that if the foreman had not chanced to talk to the safety supervisor this happy outcome would never have been realized.

PRODUCTION GAINS THROUGH BETTER VISION

The sharp general advance in wages is a challenge to scientific management to make working conditions and equipment at least proportionately productive. What more immediate and effective step can be taken than to raise the visual acuity of 40 per cent of the employees through corrective glasses and further to raise the productivity of all workers in most plants and offices by the installation of adequate lighting and proper painting. An excellent example of good lighting accompanied by proper color treatment can be seen here in the machine shop of this New York Trade School. The installation was made in connection with a conference on industrial ophthalmology conducted by the College of Physicians and Surgeons of Columbia University with the cooperation of the National Society for the Prevention of Blindness.

Through the courtesy of Mr. George McLaughlin, Superintendent of this school, and the cooperation of the General Electric and du Pont Companies we were able to show the eye physicians who attended the conference how greatly the visual task could be aided through illumination and color.

The following is a selection of examples of production increases through better lighting and through eye correction. The percentages are startling until you recall the simple fact that the whole program is just a matter of enabling the workers to see their work.

> "One employer reports that after supplying one-fifth of his employees with needed glasses and installing an improved lighting system, output was increased by 19 per cent and quality was improved by 16 per cent.
>
> "One concern increased illumination from 8 foot-candles to 60 foot-candles on work which involved key-punching of tabulating cards. Production was increased 58 per cent, with a reduction of 69 per cent in errors."

EYESIGHT AND GENERAL HEALTH

An extensive study shows that more than 90 per cent of American industries have either complete or partial medical service. Nevertheless the direct relation of eyesight to general health is very little appreciated. There are two phases to this relationship. One is the disturbances in general health which originate in eye-strain or other visual defects and the other is the reverse condition in which the eye is affected by health deficiencies. In connection with the latter it is important to note that many systemic diseases can be identified—often in early stages

—by examination of the eye with an ophthalmoscope. From the industrial standpoint this is of particular importance because of the very short time required for such an examination when made by a skilled eye physician.

Our attention is called to a series of six articles which recently appeared in the New York *World Telegram* beginning April 2nd. These are a major contribution to general knowledge about the eyes. Dr. Conrad Berens pointed out, "By means of the ophthalmoscope, the eye physician is able to examine the interior of the eye and thus often is the first to discover the evidence of serious diseases of the brain, the blood, the digestive tract, kidneys, heart or arteries. This is an excellent reason for having the eyes examined periodically by an eye physician, that is, by one with the degree of M.D., who has had special training in diseases of the eyes."

VISUAL CONDITIONS AND INDUSTRIAL ACCIDENTS

We are prone to think of injuries to the eyes as a measure of the importance of eye protection in industrial safety practices. This measure is far short of the actual importance of visual conditions in respect to accidents. Authorities agree in the estimate that five per cent of general industrial accidents are due to uncorrected deficiencies of vision and 20 per cent are due wholly or in part to bad visual conditions in the plant such as deficient lighting and glare. Taken together this suggests that one out of four industrial accidents may result from the lack of an adequate visual program.

WHAT TO DO ABOUT IT

A letter from the Chairman of the WPB was sent to 25,000 American Industrial Executives during the war from which I quote the following:

Subnormal eyesight keeps 25 per cent to 40 per cent of war workers below normal production.

Inadequate illumination and glare in many factories handicap the entire working force.

Absenteeism, fatigue, and accident rates are substantially increased by eye strain.

Protective goggles and other equipment are often not supplied in sufficient numbers, not properly fitted, and not adequately maintained and used.

Instructional material was mailed to these war plants and requests were received from 2,837 concerns employing an estimated eight million workers. The instructional material included in the general program and a large number of supplementary pamphlets are available to you upon request.

In conclusion may I summarize the highlights of our subject:

(1) Two out of five average industrial workers have visual deficiencies which keep them from doing their best work.

(2) At least 90 per cent of these workers can be brought up to satisfactory level by corrective glasses.

(3) Suitable adequate lighting will increase production.

(4) A scientifically chosen color scheme, with paint having the right reflection factors, will lessen fatigue, increase production, and increase the efficiency of the lighting.

(5) All jobs should be studied to determine the minimum visual requirements for their best performance.

(6) Each employee should have a vision test —

  (a) to determine whether he needs corrective glasses or other eye treatment

  (b) to make sure that he is assigned to the job that makes best use of his visual ability

(7) The skills of older workers are retained at full advantage to the employer as well as to the employee.

Taken as a whole the visual program will result in improved labor-management relations. It will increase production and reduce spoilage, yet it is not a "speed-up" program in the usual sense because the gains are accomplished by making it easy to see the work.

Do we need more to establish Conservation and Utilization of Vision as a major factor in the science of management?

OCULAR EFFECTS OF RADIANT ENERGY[1,2]

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PITTSBURGH, PA.

THAT light, under certain circumstances, could seriously damage vision was a well established truth centuries ago. The early writers in medicine described the hazards of gazing at the eclipse with the unshielded eye. It was not until the latter part of the 19th century that any coordinated studies regarding the deleterious effects of radiant energy were made. The stimulus for these investigations arose from the increased frequency of cataract occurring among glass workers. Research within England and Germany confirmed the causal relationship existing between infra-red rays and glass blowers' cataract.

Industry in its ceaseless quest for new methods now not only deliberately generates infra-red, but also utilizes rays far more potent. The modern industrial physician must therefore be prepared to protect his workers from a variety of types of radiation.

THE NATURE OF MATTER

All matter is made up of atoms—solar systems in miniature. Normally the atom is in an electrically neutral state. Molecules are combinations of identical or different atoms. Motion within the atom, as well as between neighboring atoms is a continuous process. When energy in the form of heat or electricity is applied to a body it is transferred to the molecules, thus increasing their movement. The increase in radiation emitted from the body is an expression of this new excitation of molecular activity. Our eyes perceive the change in the physical state of an iron bar as heat is applied. The red glow of the metal is due to the emission of radiations in the visible range. The white heat is due to the inclusion of still shorter waves in the spectrum being emitted as the temperature of the bar is increased.

THE STRUCTURE OF THE ATOM

The precise architecture of the atom is as yet unfathomed. Our present notions of it are of a mathematical nature and therefore a mechanical model presents numerous weaknesses. First Rutherford and then Bohr forsook the realm of classical physics and developed their concept of the atom, which in the simpler atoms such as hydrogen is acceptable to most physicists. In the Bohr atom the *core or nucleus is occupied in part by the proton:* a particle of matter carrying a positive electric charge. Enveloping this central core are a number of concentric circles or orbits which act as pathways upon which the electron travels at high velocity. In the quiescent state, the electron's travels remain confined to the innermost circle. As energy is absorbed by the atom the electron is pushed outward into a path further removed from the nucleus. This shift may occur in an

1. Presented at the Annual Meeting of The American Association of Industrial Physicians and Surgeons, Chicago, April 11, 1946.
2. Reprinted from *Industrial Medicine*, 15:5, 311-316, May, 1946.
3. Medical Adviser, Industrial Hygiene Foundation, School of Medicine, University of Pittsburgh.

orderly fashion from orbit to orbit or the electron may be violently jolted through several paths or out of the atom entirely.

For each or any of these transfers it is a prerequisite that for every change, energy of a very specific frequency and quality must be fed into the atom. When the atom returns to its normal state, the electron retraces its steps to the innermost circle and, in so doing, radiation of a specific frequency is emitted at each transfer. By such action a series of waves of graduated frequencies can be emitted. Radiation therefore is the expression of violent changes occurring within the atom. In some instances the alteration may be of sufficient magnitude to alter the chemical composition of the substance.

THE ENERGY SPECTRUM

TYPE	LENGTH	DESCRIPTION
Electromagnetic	20 KM—1MM	Radio—Wireless telegraphy. The arc from short circuits may produce cataracts.
Infra-Red	To 0.00078 mm (7800 A U)	Generated by heated bodies. (Slabs of metal and glass.) These waves upon absorption by a body increase the molecular activity with a consequent elevation of temperature. May produce cataract.
Visible	To 0.00039 mm (3900 A U)	Waves of this length are capable of stimulating the retina. In excess they may burn the retina.
Ultra-Violet	To 0.00000005 mm (5 A U)	Emitted from very hot bodies and ionized ashes. Produce chemical changes. Affect photographic plates. "Actinic Keratitis" sun burn.
X-rays	To 10^{-8} mm (0.1 A U)	Generated by the sudden deceleration or stoppage of electrons. Very high frequencies and with the highest (hard x-rays) very high powers of penetration. May produce cataract.
Gamma Rays	To 10^{-9} mm (0.01 A U)	Results from the nuclear disintegration of atoms. Radium, uranium and other of the heavy chemicals. Similar to hard x-rays.
Cosmic Rays	To 10^{-13} mm (0.000001 A U)	Represents the annihilation of matter (Jeans). Announcement of the birth of elements (Milliken).

FIG. 1—Chart showing the divisions of the energy spectrum.

THE NATURE OF RADIATION

Radiation is the means by which energy is transferred through space. This transfer is carried out without benefit of molecular action. As you sit by a window through which the sun's rays are streaming you notice a sense of bodily warmth, yet the glass remains cold. The infra-red radiations were transmitted by the glass upon which no change was effected but absorbed by the body when degraded into heat.

The characteristics of a wave of radiation are:

1. Wave length—the distance from the crest of one wave to the crest of the adjacent wave, or identical positions on successive waves.

2. Frequency—the number of waves that pass a fixed point per second.

Radiation travels at the same speed as light. And like light it undergoes reflection and refraction. In its passage radiation appears to travel by means of waves while its effect on matter suggests a corpuscular nature. Perhaps we are observing two phases of the same general action.

THE ENERGY SPECTRUM

There are many varieties of radiation extending from the long electromagnetic waves to the very short high frequency cosmic rays. Of this large group the visible portion occupies but a small section.

The unit of measure of length of these waves is the Angstrom unit, named in honor of the Swedish physicist. An Angstrom unit is 0.0000001 mm (10^{-7}) in length.

THE RATE OF RADIATION

A "black body" is by definition a surface which absorbs all the energy incident upon it. None is reflected. In addition, all the energy is radiated from a "black body." The rate of emission of energy from a "black body" is taken as unity. As the temperature of a "black body" is elevated there is a corresponding increase in the amount of energy liberated at every wave length but not in equal proportion. This relationship is a quantitative one and by application of the Stefan-Boltzmann law we find it varies as the fourth power of the Kelvin or absolute temperature.

$H = K AT^4$ where A is area and T is Kelvin temperature the value of K is 1.36×10^{-12} Cal/cm^2 /sec.

If a family of curves of "black body" radiators at different temperatures is examined we notice some similarity between them. As the temperature is increased the crest of the wave shifts toward the region of shorter waves ("Wien Law"). It is the shifting of the region of maximum intensity that produces the change in color from red to blue white as an iron bar is heated.

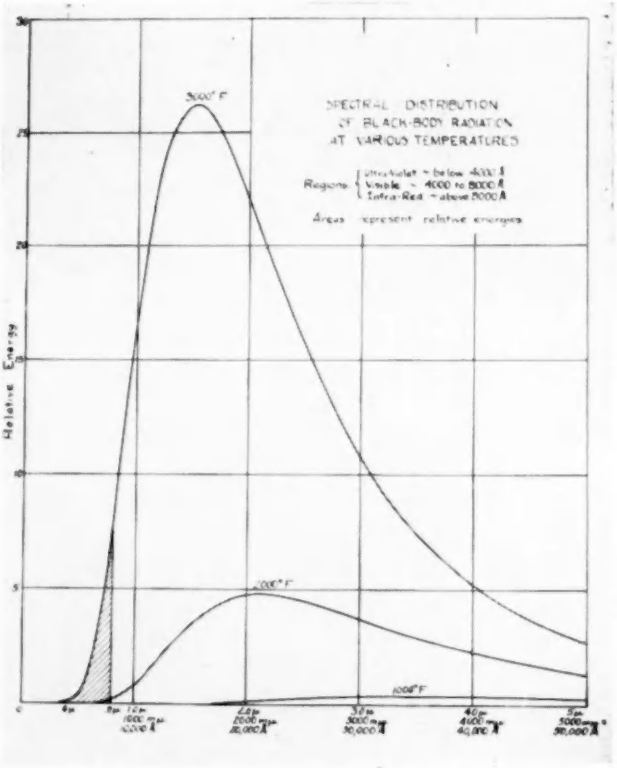

FIG. 2—Showing the distribution of black body radiations at 1000°, 2000°, 3000° F. Notice energy in the visible range is emitted at 2000° and 3000° F.

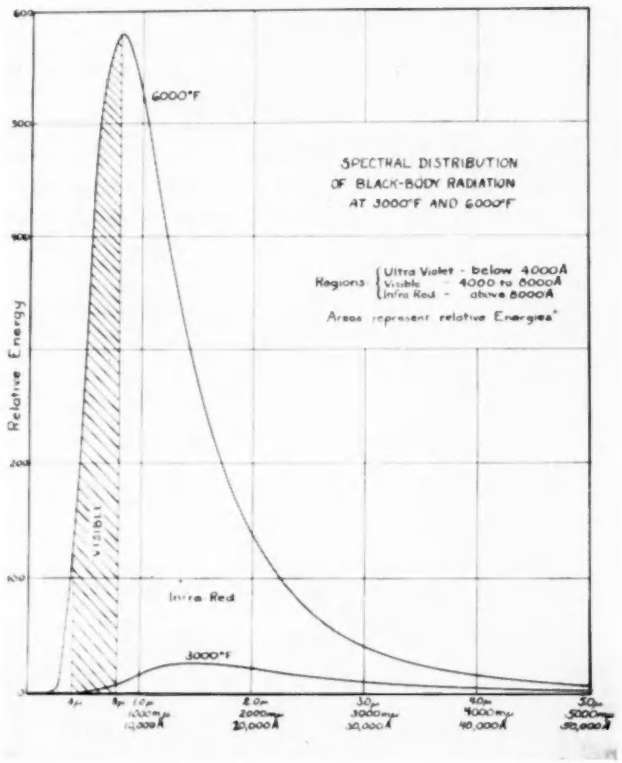

FIG. 3—Showing energy distribution at 3000° and 6000° F. At 3000° no radiation in the ultra-violet range is present, whereas some radiations in this group are emitted with the black body at 6000° F.

THE EMISSIVITY OF A SURFACE

Only a "black body" emits all the energy absorbed. All other surfaces emit only a fraction of the energy incident thereon. This difference in emissivity is of importance in evaluating the potential hazards from any given surface. The emissivity of any given surface is the ratio of its radiation output compared to that of a black body of the same size and at the same temperature.

FACTORS MODIFYING THE INTENSITY LEVEL

We have discussed not only the origin of energy but also the varieties and the rates by which these are generated. By design we have omitted the rate of

TABLE OF EMISSIVITIES

From "International Critical Tables"

Vol. 5, Page 244

Metal	392° F 200° C	752° F 400° C	1112° F 600° C
Silver	.020	.030	.038
Aluminum*	.113	.153	.192
Copper*	.568	.568	.568
Brass*	.610	.600	.589
Cast Iron	.210		
Cast Iron*	.640	.710	.777
Steel*	.790	.788	.787
Nickel*	.369	.424	.478
Monel*	.411	.439	.463
Lead*	.631		
Platinum	.060	.086	.110
Zinc*		.110	
Glass at 100° C .88			

*Oxidized.

FIG. 5—Table of emissivities showing the rate by which energy is emitted from different sources.

generation of gamma rays. We are all well aware of recent but still secret achievements in the field of nuclear physics. In earlier years we were taught that these radiations were of a spontaneous nature and not under control of men. Our concepts now need revision.

Our next step then requires consideration of the fate suffered by these rays in their passage from their source to the eye. For the sake of convenience the word "light" will be used to include infra-red, visible and the ultra-violet ranges of the spectrum. The dust in the atmosphere in the factory absorbs much of the ultra-violet. Moisture in the air absorbs some of the infra-red.

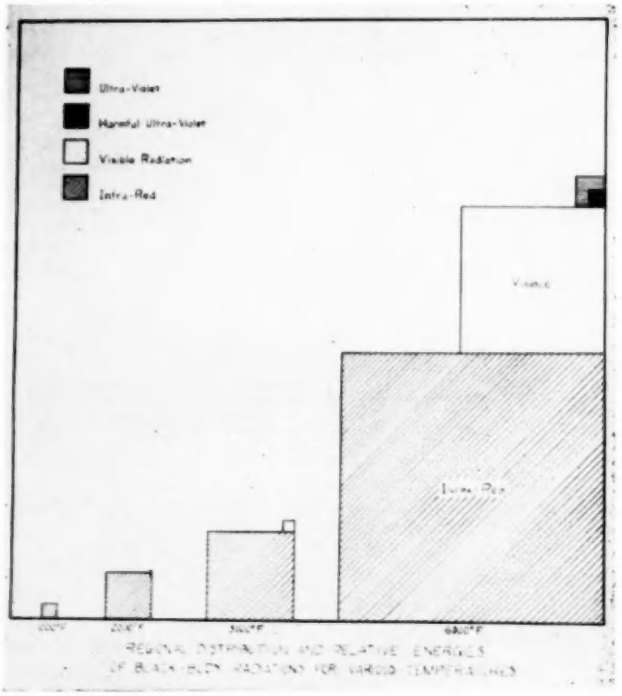

FIG. 4—Showing the proportionate amounts of the various types of radiation at 1000°, 2000°, 3000° and 6000° F.

The two major factors modifying the intensity of light incident upon the eye are:

1. *Distance from the source.* Light travels outward in straight lines from its point source of origin. If a screen of unit area be placed at increasing distances from the source a rapid and progressive loss of illumination will be observed for each new position. This rate of loss varies inversely as square of the distance from the source. A man 10 feet removed from a welder receives only 1/100 as much energy as he would if but one foot away.

2. *The angle of incidence.* The cornea being a curved surface modifies the intensity value of each ray of light incident upon it. The maximum effective energy is present only in that ray striking the cornea at a right angle to a tangent at a given point on the surface of the cornea. The line followed by this ray is

called the normal. As the angle formed by the normal and the incident ray increases a corresponding loss of intensity occurs. This loss results from reflection. At an angle of 60° the incident ray has lost 50 per cent of its effective energy. The intensity varies directly as the cosine of the angle of incidence.

THE ABSORPTION OF RADIANT ENERGY BY THE EYE

Light in passing from one medium to another undergoes one or more of the following changes:

1. It is reflected.
2. It is absorbed.
3. It is transmitted.

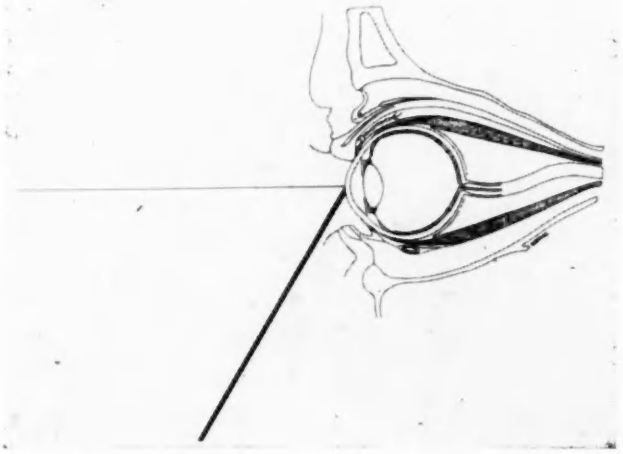

FIG. 6—As the angle between the normal and the incident beam increases, the effective energy decreases. The cosine law states that the intensity varies directly as the cosine of the angle of incidence.

In general all three changes occur in varying degree. To incident light, the eye presents a series of concentric layers. Each layer in its turn reacts in specific fashion according to the variety of radiation incident thereon. To radiations of certain wave length one layer may act as an impenetrable barrier while to waves only slightly different transmission is afforded. Among individuals of the same species as well as different species, some variations in transmission are to be noted. The sclerosed lens of the older workman intercepts more of the ultra-violet and infra-red. The scarred cornea likewise alters the transmission. It is of major significance that with greater intensity a pronounced increase in transmission occurs.

ABSORPTION OF INFRA-RED

In general all radiations longer than 30,000 A. U. are completely absorbed by the cornea. A slow progressive increase of corneal transmission is observed until at about 19,000 A. U. a marked increase occurs. This continues with one exception until at about 11,000 A. U. 96 per cent of the incident energy is transmitted.

Absorption by the lens begins rather abruptly at 18,000 A. U. and continues in varying degrees until at 10,000 A. U. nearly all infra-red is transmitted. In the consideration of glass blowers' cataract that share of the etiological responsibility due to radiation must be limited to waves from 18,000 to 10,000 A. U. and perhaps the very long ultra-violet.

The iris absorbs all wave lengths of infra-red that fall upon it. Upon absorption it is translated into heat. In moderate doses the capillaries of the iris are capable of dissipating this heat. In excessive doses the surplus is conveyed to the aqueous which bathes the iris and lens with a consequent evaluation of the temperature of this fluid.

layer of rods and cones lying deep in the retina. These cells upon exposure to radiations between 7800 and 3900 A. U. initiate a series of changes terminating in vision. The surplus is absorbed by the pigmented layer and translated into heat may cause a thermal burn in excessive doses.

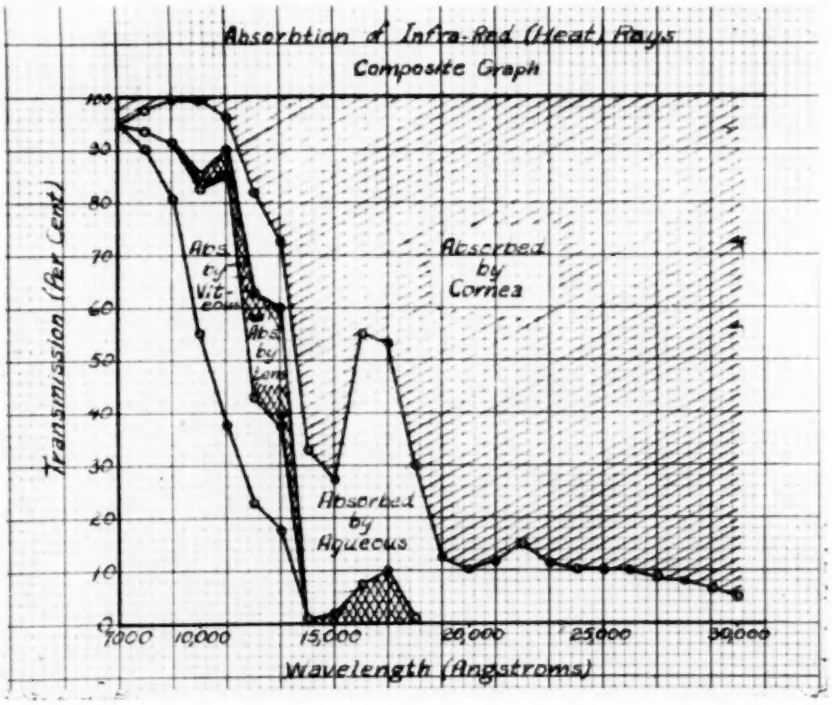

FIG. 7—Graph showing the absorption of infra-red rays by the cornea, aqueous and lens. This graph is an average from Hartridge & Hill; and Roggenbaur & Wetthauer.

By far the major portion of infra-red incident upon the cornea is absorbed by the cornea, aqueous, iris and lens. The vitreous filters out most of the remainder so that little reaches the retina. Only in very unusual circumstances does the retina suffer a thermal burn as the result of infra-red radiation.

ABSORPTION OF VISIBLE RAYS

Practically all the visible light incident upon the eye is transmitted to the

ABSORPTION OF ULTRA-VIOLET

Absorption of ultra-violet light by the lens begins at about 3800 A. U. and continues with increasing amounts until at 3200 A. U. and below all transmission ceases.

Interception of ultra-violet by the cornea begins at about 3200 A. U. At 2930 A. U. absorption is complete and remains so for waves of shorter length.

THE CONCENTRATION OF ENERGY

As noted previously light in its passage through the eye undergoes many physical alterations. While some of these modifications tend to dissipate, other factors combine to concentrate the energy in its passage through the eye. The eye is made up of a series of parts, the combination of which forms an optical system. The primary purpose is to so bend light that a proper image is formed upon the retina. The net result of this refraction is the concentration of light at various depths in the eye, the site of the focal point being dependent upon the extensity and distance of the source.

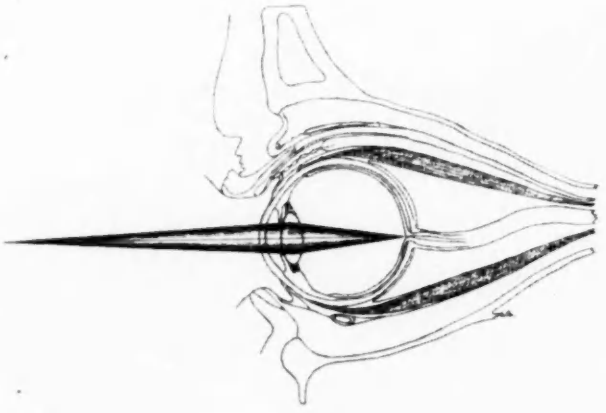

FIG. 8—In the above diagram adapted from one contained in Duke-Elder's textbook of Ophthalmology the source of energy is small. There is a rather even distribution of energy throughout the layers of the eye. By the refractive power of the eye the light is brought to a focus upon the macula. (Macular region lies just temporal to the optic nerve.) If the incident energy is of sufficient intensity pathological changes may occur at the macula due to the concentration at the level.

THE BIOLOGICAL EFFECTS OF RADIATION

It is only from the rays which are absorbed by the tissues that any biological effect may result (Draper's Law). The type of tissue reaction varies with the wave length of the absorbed energy. The longer waves of the infra-red group being in resonance with inter-atomic oscillations, they tend to be absorbed. Thereupon they incite increased activity among neighboring atoms resulting in an elevation of tissue temperature. If it is sufficiently intense, a thermal lesion results.

The shorter waves of the ultra-violet range, having the capacity of penetrating the atom, are capable of actually shaking the atom apart, producing an abiotic or destructive effect.

While the terminal effects of both infra-red and ultra-violet are identical, i.e., the destruction of tissue, the sequence of events following exposure is widely different. With the heat waves the effect is immediate, whereas, with ultra-violet, a latent period of several hours exists. With the gamma radiations, an interval of months may elapse from exposure to onset of symptoms. The lesion is primarily due to the disturbed nutrition resulting from an endarteritis initiated by these rays.

THE CLINICAL PATHOLOGICAL CHANGES: INFRA-RED

The Cornea: The cornea reacts promptly to exposure to excessive doses

of this group. Pain is immediate and severe. The natural physiological impulse is to shut the eyes, thus clinical cases of burned corneas from this cause are exceedingly rare. When these cases present themselves the entire cornea is opaque and edematous. The anterior surface though lustreless is rather smooth. The conjunctiva promptly becomes swollen and red.

The Lens: Following exposures from the radiations emanating from heated surfaces characteristic opacities develop within the lens and its capsule. While the term "glass blowers' cataract" is applied to this lesion, it is a misnomer. It is frequently seen among workmen in other industries where extensive surfaces of material at high temperature are encountered. Puddlers, tin plate workers and rollers frequently develop this type of cataract. The cataract develops only after long daily exposures extending over a period of years. The lesion is frequently initiated in the third decade of life and slowly matures, requiring an average of 27 years to incapacitate the worker (W. Robinson). Among older workers the incidence is higher owing to the greater absorption of the older lens to the infra-red rays. The direct physical action of these rays is augmented by the altered nutrition afforded the lens by the overheated aqueous. Goldmann and his group feel that the iris and ciliary body, by constantly being overheated, so alter the intraocular metabolism that cataract develops. Vogt on the other hand, feels it is primarily the physical action of the infra-red rays upon the lens that produces the lesion.

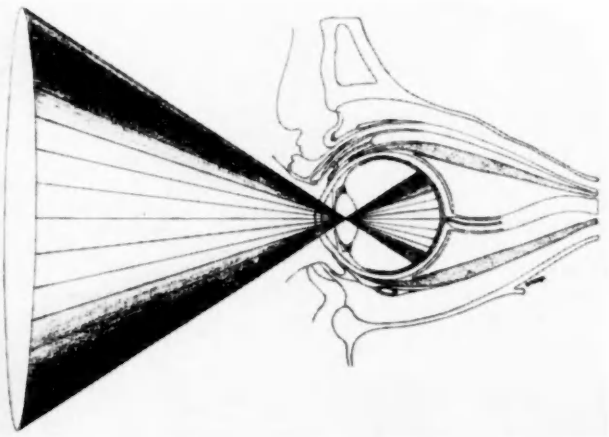

FIG. 9—In the above diagram modified from Duke-Elder, the source is an extensive one. All the energy falling upon the pupil is concentrated within the lens and at the focal point in the posterior region of the lens enormous levels may be attained. In the retina we have a wide distribution of the energy with little or no likelihood of any serious concentration.

The initial site of appearance of the cataract is the axial portion of the posterior part of the lens. A somewhat flattened, well circumscribed, grayish disc occupies the posterior portion of the lens. From the center of the lens a conical shaped opacity grows forward. Vacuoles are usually seen. The most characteristic changes are seen in the anterior lens capsule. In the pupillary area the capsule splits and the curled free ends are seen to be floating in the

anterior chamber. Visual impairment is noted early in heat cataract since the initial lesion is the appearance of opacities in the axial portion of the lens.

ULTRA-VIOLET

The long radiations of the ultra-violet group upon absorption produce a thermal effect. Abiotic activity does not become apparent until about 3200 A. U. and is most pronounced in radiations between 3000 and 2500 A. U. A critical threshold exists within the tissue both for intensity and wave length. To satisfy this requirement it is necessary that energy of the order of 2,000,000 ergs/cm^2/sec be incident upon the tissue (Verhoeff-Bell, Hill & Edinow). The degree of reaction varies directly as the dosage. Repeated exposures are additive provided they occur within a 24-hour period. Before repair sets in, a series of minor exposures throughout the work day may be as intense as a single large dose.

The Cornea: From a clinical standpoint the major effect of these radiations is seen in the cornea. After a latent period of six to eight hours, shorter in extreme exposures, the patient notices a sandy feeling in his eyes and, in rapid sequence, severe pain and watering. The pain may be so intense as to invoke spasm of the eyelids. Examinations of the eyeball show the cornea to be dull and to have a stippled appearance to its epithelial surface.

With more intensive exposures the epithelium in the central region will be destroyed with the severity of the reaction subsiding as the limbus is approached. With very high levels of energy there may be a haze to the central portion of the corneal interstitial tissue. The rate of repair depends upon the severity of exposure. Even in the most acute cases the height of the reaction occurs within 48 hours with complete restoration, and usually with no ill effects in a matter of a week or 10 days. It is of interest to note that in the thermal burn the cornea reacts throughout its entire area with the greatest effect in the posterior region, whereas with ultra-violet the reaction is most intense in the central region of the anterior surface. Lens changes resulting from ultra-violet are extremely rare. In an eye with the lens removed the retina may be damaged by these rays.

X-Ray and Radium: The appearance of cataract following exposure to gamma rays is a well established clinical fact. The effect of these radiations is twofold:

1. Direct action on the lens.
2. Vascular changes in the iris and ciliary body so alter the chemical nature of the aqueous that the nutrition of the lens is interfered with.

Since these vascular changes are so slow, a long latent period in the development of these cataracts is to be expected. It is not unusual for a period of two years to elapse prior to cataract development.

Following a latent period of variable length a rather dense, disc-shaped opacity is seen in the posterior cortex. This is surrounded by a ring of minute discrete opacities. Under the anterior capsule a few vacuoles and opacities appear.

THE ELECTRIC CATARACT

The effects of lightning and electric currents are usually so disastrous to life that few studies have been made concerning the changes that occur within the lens. After a wait of one month to two years, opacities may appear in the capsule or just beneath it. These opacities may assume various forms.

THE METHODS FOR CONTROL OF RADIANT ENERGY

The various procedures for the elimination of infra-red rays' harmful effects upon the eye are well known. These

rays penetrate plain glass with ease. The introduction of iron into the formula of glass offers excellent protection. Sir William Crookes developed a series of ferric oxide lenses capable of filtering out most of these harmful radiations yet transmitting sufficient amounts of the visible to permit the wearer to see to get about. To offset this drawback the level of illumination of the plant may be increased to permit greater safety in the movements of the workman.

To protect the eyes from ultra-violet light, a series of cobalt lenses of increasing densities are available. As the intensity of energy output is increased, filters of greater absorption power must be utilized by the welder.

Gamma radiations have such tremendous penetrating power that lead or leaded safety equipment must be available for the protection of the worker. The effects of these radiations are cumulative. A slight exposure from day to day may be quite disastrous.

Treatment: When cataract develops, its removal is the only form of treatment. The type of surgery depends upon the etiological factor.

Ultra-Violet: Pontocaine (never cocaine) in .05 per cent solution promptly relieves the pain. It may be instilled several times a day. Bland oils and ointments offer some relief. Homatropine 1 per cent solution quickly relieves the iris spasm but its use should be restricted owing to the possibility of a glaucomatous attack being precipitated. Ice compresses applied for 15-minute intervals will alleviate the swelling.

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Guest of Honor

GEORGE MORRISON COATES, A.B., M.D.

Graduate of the University of Pennsylvania School of Medicine; Director and Trustee of Pennsylvania Institute for the Instruction of the Blind, Haverford School, St. Michael's Home for Colored Cripples; member, American Board of Otolaryngology; Consultant for the Draft Board and to the Veterans Administration; Member of the Otolaryngological Committee, National Research Council; Member Philadelphia County Medical Society, Pennsylvania State Medical Association (Chairman of the Ear, Nose and Throat Section in 1921); American Medical Association (Chairman of the Section, 1926); American Laryngological Association (Secretary 1920-33, President 1933-34, Biographer and Historian since 1934); American Otological Society (President 1940-41); American Laryngological, Rhinological and Otological Society (President, 1937); Fellow of the American Academy of Ophthalmology and Otolaryngology (President, 1939), Fellow American College of Surgeons; Editor-in-Chief, Archives of Otolaryngology 1937—; Corresponding Member of La Société de Laryngologie des Hospitaux de Paris; Honorary Member, Pacific Coast Oto-Ophthalmological Society; (Life, Honorary) Philadelphia Laryngological Society; Philadelphia Pediatric Society; Charter Member, American Broncho-Esophagological Society; Newcomb Award, American Laryngological Assocation; served as Assistant Surgeon, U.S.N., during Spanish-American War; during World War I, Major and Lt. Colonel, Medical Corps, U.S.A.; Commanding Officer of Base Hospital 56, France; retired as Colonel, Medical Corps Reserve; Member Military Order of Foreign Wars.

TRANSACTIONS
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All communications regarding the TRANSACTIONS should be addressed to William L. Benedict, M.D., Executive Secretary-Treasurer, the American Academy of Ophthalmology and Otolaryngology, 100 First Avenue Building, Rochester, Minnesota

Editorial

A Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

A Pan-American Congress of Otolaryngology was projected by the American Academy of Ophthalmology and Otolaryngology in 1941. Two years previously, at the annual convention of the Academy held in Cleveland, Ohio, a Pan-American Congress of Ophthalmology (now the Pan-American Association of Ophthalmology) was launched under the auspices of the Academy with marked success. The Senior Member of the Council in reporting to the membership at large at the annual business meeting held October 22, 1941, remarked as follows: "The Council is considering the sponsoring of a Pan-American Congress of Otolaryngology to be formulated along the same lines as that of the Pan-American Congress of Ophthalmology. The details have not as yet been perfected but as soon as they are, a report will be published in the TRANSACTIONS."

The first notice of the proposed Pan-American Congress of Otolaryngology appeared in the January-February issue of the TRANSACTIONS for 1942. A preliminary committee was proposed with C. L. Jackson, M.D., of Philadelphia, chairman, and Santiago L. Aranz, M.D., of Argentina, co-chairman. During the following year Dr. Jackson appointed to the committee, with the approval of the Council, several Fellows of the Academy and some Latin-American representatives. The names of these committeemen have been published in the list of Council Committees in subsequent issues of the TRANSACTIONS.

Two years of arduous work consisting of correspondence and personal visits to Pan-American countries have culminated in a magnificent program of scientific work made up of contributions from members of the Academy and Latin-Americans who are prospective members of the proposed Congress. The program of the Academy will overlap

the program of the Congress in a joint meeting on Friday morning, October 18th.

As a result of discussions of the objectives of this Congress by parties from all countries concerned, it was deemed advisable to change the name from a Congress of Otolaryngology as proposed to a Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology. In this new association it is hoped that common ground will be found for active interest by all specialists in the American continents who are actively engaged in the practice of the specialties concerned. The committee has received hearty support from other otolaryngological societies in this country and in Latin-American countries. The officers of the Academy are deeply appreciative of the interest and assistance afforded by members of the Academy committee in sponsoring and developing this Congress. It is a concrete expression of truly Pan-American cooperation. If the pattern of the Pan-American Congress of Ophthalmology is followed, the new Congress will perfect an organization, elect its officers, and carry on its own activities independent of the Academy after the formal launching.

All Fellows of the Academy are urged to become members of the Congress and to lend their support in the furtherance of international relations with our friendly colleagues.

Notice

CONSERVATION OF HEARING

There will be a meeting of the state representatives of the Committee on the Conservation of Hearing at 9:30 a.m., Sunday, October 13th, in the School of Speech Building on the Evanston campus, under the direction of Dr. Raymond Carhart. This is an open meeting and all interested are invited to attend. The campus can be reached by elevated train from Chicago in about 45 minutes.

OFFICIAL NOTICES

FIFTY-FIRST ANNUAL CONVENTION

American Academy of Ophthalmology and Otolaryngology

OCTOBER 13 TO 18, 1946

PALMER HOUSE

Chicago, Illinois

Convention Call

Under the authority of the Constitution and with the approval of the Council, I herewith proclaim that the Fifty-First Annual Convention of the American Academy of Ophthalmology and Otolaryngology will convene at the Palmer House, Chicago, Illinois, on Sunday, October 13, 1946, and continue through noon Friday, October 18, 1946.

GORDON B. NEW, M.D.
President

Attest:

WILLIAM L. BENEDICT, M.D.
Executive Secretary-Treasurer

Local Committees

G. HENRY MUNDT, M.D.
General Chairman

Reception Committee

William A. Mann, M.D., *Chairman*
Albert H. Andrews, M.D.
H. C. Ballenger, M.D.
Beulah Cushman, M.D.
John F. Delph, M.D.
Noah D. Fabricant, M.D.
T. C. Galloway, M.D.
George P. Guibor, M.D.
L. G. Hoffman, M.D.
Lawrence J. Lawson, M.D.
Vernon M. Leech, M.D.
John R. Lindsay, M.D.
Frank J. Novak, Jr., M.D.
S. J. Pearlman, M.D.
Richard A. Perritt, M.D.
Samuel Salinger, M.D.
George E. Shambaugh, Jr., M.D.
William A. Smiley, M.D.
Gail R. Soper, M.D.
Walter H. Theobald, M.D.
Elmer A. Vorisek, M.D.

Committee on Arrangements

Paul H. Holinger, M.D., *Chairman*
Thomas D. Allen, M.D.
John Bellows, M.D.
A. J. Coombs, M.D.
James R. Fitzgerald, M.D.
Richard C. Gamble, M.D.
Elmer W. Hagens, M.D.
Arlington C. Krause, M.D.
Peter C. Kronfeld, M.D.
Francis L. Lederer, M.D.
Samuel J. Meyer, M.D.
Irving Puntenny, M.D.
Roy Otis Riser, M.D.
H. Saul Sugar, M.D.

Scientific Exhibit Committee

O. E. Van Alyea, M.D., *Chairman*
Georgiana Dvorak-Theobald, M.D., *Consultant*

Ladies' Committee

Mrs. William A. Mann } *Co-Chairmen*
Mrs. G. Henry Mundt }

Council Meetings

The Council of the American Academy of Ophthalmology and Otolaryngology will convene at 9 o'clock, Saturday morning, October 12, 1946, in Private Dining Rooms No. 4 and No. 5 on the 3rd floor of the Palmer House, Chicago. There will also be a meeting of the Council on Wednesday, October 16, at 12:45 in Private Dining Room No. 5. Members desiring to be heard or to present business will confer with the Executive Secretary for appointments.

GORDON B. NEW, M.D.
President

Public Relations

Contributors to the scientific program are requested to send copies of their papers to Dr. Erling W. Hansen, Medical Arts Building, Minneapolis, Minnesota, Secretary for Public Relations, at the earliest possible moment.

GORDON B. NEW, M.D.
President

Exhibits

The Scientific and Technical Exhibits will open at 9 o'clock Sunday morning, October 13.

Registration

General registration will begin at 9 o'clock Sunday morning, October 13, in the Foyer to the Grand Ball Room, Fourth Floor

1. Advance orders for conference tickets will be filled only for Fellows whose 1946 dues have been paid.

2. Receipt for 1946 dues is essential for registration. Fellows without receipt cards will be required to procure duplicates previous to registration.

3. Instructional conference tickets will be sold only to those registered and with badge.

4. A special desk for Latin guests will be in charge of Miss Givens and Miss Woodruffe.

5. To facilitate registration and the transaction of such other business as is necessary at the Registration Desk, the following sections will be provided:

A. Registration for Advance Orders.

B. Registration with receipt card but without advance orders.

C. Registration without receipt card.
Payment of Dues.
Filing of Academy Applications.

D. Registration of Non-Members (fee $5.00) and Special Guests.
Candidates whose applications were received too late for listing in the July-August issue of the TRANSACTIONS (fee $5.00).
Candidates listed in the July-August issue of the TRANSACTIONS and eligible for election at this meeting (exempt from fee).
Residents exempt from fee (previously arranged by Head of Department of institution where training).

E. Purchase of Instructional Conference Tickets ($1.50 each period).

F. Purchase of instructional supplies (abstracts, covers, indexes, monographs).
Orders for Bound Volumes of TRANSACTIONS.
Subscription to bimonthly issue of TRANSACTIONS.
Orders for Pathologic Atlases—Ophthalmic and Otolaryngic.

G. Purchase of tickets for Alumni Dinners, Annual Academy Dinner, and Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology Banquet. Sale of tickets closes at 2 o'clock in the afternoon of the day of the dinner.

Regulation Badge

The regulation badge secured at the time of registration is essential for admittance to all activities.

Please Note. — A badge will be furnished at the time of registration upon presentation of receipt card for 1946 dues. Members who fail to bring 1946 receipt card to Chicago will be required to obtain a duplicate previous to registration.

Ladies' Registration

The wives of members and lady guests are urged to register.

Ladies' Headquarters
Rooms 15 and 16, Club Floor

Guests

Physicians are welcome to attend the meeting of the Academy and to participate in all the activities. All guests, however, will be required to register and a fee of $5.00 will be charged. Academy candidates whose applications are filed previous to August 1 and whose names are published in the July-August issue of the TRANSACTIONS will be exempt from paying this $5.00 registration fee.

Residents Registering as Guests

Men in training in accepted residencies, or those now completing a full academic year (nine months) in basic study, registering as guests during the Academy convention period, will be relieved of paying a guest fee only when the Department Head concerned officially requests this favor at least 30 days prior to the opening date of the convention.

New Business

Proposals for new activities often are presented too late during the Academy session to afford time for deliberation. Therefore, new items requiring Council action should be presented in writing to the Executive Secretary early so that the Committee concerned may have an opportunity to study the matter prior to presentation to the Council.

Advance Sale of Instructional Tickets

Members are urged to contract for instructional tickets by advance mail order. Please note instructions for reserving tickets on page 275 and on colored insert. Orders for tickets will be filled for members only whose 1946 dues have been paid.

Dues

A Reminder

Are your 1946 dues paid? Because of the second-class mail regulations, the TRANSACTIONS can be sent only to members in good standing. It is also necessary that your dues be paid before you register for the Academy Convention in Chicago, October 13-18, 1946.

Those who have not paid dues for 1946 are requested to remit to Dr. W. L. Benedict, Executive Secretary-Treasurer, 100 First Avenue Building, Rochester, Minnesota.

Constitutional Changes in Fellowship Status

Life Fellows — 1947

Baum, H. L. ..... Denver, Colo.
Bernatz, C. F. ..... Pittsburgh, Pa.
Binger, H. E. ..... St. Paul, Minn.
Binkley, Roy S. ..... Dayton, Ohio
Blair, W. W. ..... Pittsburgh, Pa.
Dean, Walter ..... Louisville, Ky.
Donoher, Wm. D. ..... Los Angeles, Calif.
Dulaney, Octavus ..... Louisville, Ky.
Farnsworth, M. A. ..... La Junta, Colo.
Judd, H. B. ..... New York, N. Y.
Kaufman, A. Spencer ..... Philadelphia, Pa.
McKee, Claude W. ..... Greensburg, Pa.
McKennan, James W. ..... Washington, Pa.
Markel, J. Clyde ..... Pittsburgh, Pa.
Merrill, H. G. ..... San Diego, Calif.
Naftzger, J. B. ..... Hollywood, Calif.
Orcutt, D. C. ..... Chicago, Ill.
Orton, Henry B. ..... Newark, N. J.
Patterson, Ellen J. ..... Pittsburgh, Pa.
Pitkin, C. E. ..... Cleveland, Ohio
Sanderson, David D. ..... Lincoln, Nebr.
Sedgwick, O. W. ..... Ionia, Mich.
Shahan, W. E. ..... St. Louis, Mo.
Shellman, John L. ..... Pacific Palisades, Calif.
Shoemaker, S. A. ..... Orlando, Fla.
Shuman, G. H. ..... Pittsburgh, Pa.

Stueber, Paul J. .....Lima, Ohio
Taylor, M. C. .....Pittsburgh, Pa.
Tebey, George L., Jr. .....Boston, Mass.
Tooker, C. W. .....St. Louis, Mo.
Weisser, E. A. .....Pittsburgh, Pa.
Whitaker, Joel .....Indianapolis, Ind.
Zemer, S. G. .....Lincoln, Nebr.

Senior Fellows — 1947

Albright, Paul Morris .....Corona, Calif.
Bentley, Neil .....Detroit, Mich.
Berens, Conrad .....New York, N. Y.
Blickenstaff, A. J. .....Peoria, Ill.
Charles, Joseph W. .....St. Louis, Mo.
Douglas, Frederick A. .....La Crosse, Wis.
Fairchild, Nora M. .....Los Angeles, Calif.
Forbes, Sherman B. .....Tampa, Fla.
Fust, John H. .....Erie, Pa.
Gailey, W. W. .....Bloomington, Ill.
Goux, Raymond S. .....Detroit, Mich.
Hardesty, John F. .....St. Louis, Mo.
Hurst, V. Reeves .....Longview, Tex.
Kauffman, A. B. .....Syracuse, N. Y.
Kemler, Joseph I. .....Baltimore, Md.
Kully, B. M. .....Los Angeles, Calif.
LaRue, C. L. .....Shreveport, La.
Loftus, John Edward .....Philadelphia, Pa.
March, Clara A. .....Buffalo, N. Y.
Peeler, C. N. .....Charlotte, N. C.
Russell, J. A. Merle .....Erie, Pa.
Siegel, Francis X. .....Cincinnati, Ohio
Steinfeld, A. L. .....Toledo, Ohio
Sulzman, Frank M. .....Troy, N. Y.
Todd, Grover C. .....Pittsburgh, Pa.
Welch, Robert S. G. .....Annapolis, Md.
Winter, George E. .....Jackson, Mich.

CONVENTION ACTIVITIES

President's Reception
RED LACQUER ROOM
Sunday, 5:00 p.m.

President Gordon B. New and Mrs. New invite all members and guests to a reception honoring Dr. and Mrs. George Morrison Coates and the officers of the Academy.

Committee Programs

I. Conservation of Hearing
GRAND BALL ROOM
Sunday, 2:30 p.m.

II. Otosclerosis Study Group
PRIVATE DINING ROOM No. 17
Sunday, 8:00 p.m.

III. Industrial Ophthalmology
GRAND BALL ROOM
Sunday, 8:00 p.m.

IV. American Orthoptic Council and American Association of Orthoptic Technicians
Joint Symposium
PRIVATE DINING ROOM NO. 14
Sunday, 8:00 p.m.

Alumni Dinners
Monday, 6:30 p.m.

Smoker
Grand Ball Room, Monday, 9:00 p.m.

Annual Academy Dinner
Grand Ball Room, Tuesday, 7:00 p.m.
Dress Optional

Annual Business Meeting
Induction of New Members
Grand Ball Room, Wednesday, 8:00 p.m.

Jackson Memorial Lecture
Grand Ball Room, Wednesday, 9:00 p.m.
The Influence of Hypersensitivity on Endogenous Viral Disease
ALAN WOODS, M.D.

Faculty Luncheon
Private Dining Room No. 14
Thursday, 12:45 p.m.

President Gordon B. New invites all those presenting scientific papers, motion pictures, scientific exhibits, courses of instruction, and the members of the Home Study Courses faculty to be guests of the Academy at luncheon.

Reception and Dinner

First Pan American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

Grand Ball Room, Thursday, 6:30 p.m.
Formal

EXAMINATION BY THE AMERICAN BOARD OF OTOLARYNGOLOGY

The next examination of the American Board of Otolaryngology will be held in Chicago at the Palmer House on October 8-9-10-11, 1946. The completed application must be filed 120 days in advance of the examination at which the candidate desires to appear. For information, write to the secretary, Dr. Dean M. Lierle, University Hospital, Iowa City, Iowa.

EXAMINATION BY THE AMERICAN BOARD OF OPHTHALMOLOGY

Part I of the examination (for especially assigned candidates) will be held at Chicago, October 8, 9, and 10. This examination will include the following subjects: Anatomy and Embryology, Perimetry, Therapeutics and Operations, Optics and Visual Physiology, Relation of the Eye to General Diseases, Pathology, Bacteriology and Immunology.

The practical and clinical examination, Part II, will be held October 11 and 12. This will include the following subjects: External Diseases—Slit Lamp; Ophthalmoscopy; Histology—Histopathology; Ocular Motility; Refraction—Retinoscopy; Practical Surgery.

S. Judd Beach, M.D., *Secretary*

Examination by the American Orthoptic Council

Examination for Council certificates will be held Saturday, October 12, at 9 a.m. at the Northwestern University Medical School Eye Clinic.

LeGrand Hardy, M.D., *President*

American Association of Eye, Ear, Nose and Throat Society Secretaries

Private Dining Room No. 18

Wednesday, 5:30 p.m.

Paul C. Craig, M.D., *President*

NOTICE TO SECRETARIES

The seventh annual meeting of the American Association of Eye, Ear, Nose and Throat Society Secretaries will be held on Wednesday evening, October 16, at the Palmer House, Chicago, in conjunction with the annual session of the American Academy of Ophthalmology and Otolaryngology. The meeting will be held immediately following a dinner given to the Secretaries' Association by the Academy.

Dr. Paul Craig, Reading, Pa., president of the Secretaries' Association will be in charge of the meeting. Aiding him will be Dr. Chevalier L. Jackson, of Philadelphia, and the program will deal with the mutual interests and activities of Eye, Ear, Nose and Throat Societies in South, Central, and North America. Many of our Latin-American colleagues will be present as our guests.

In addition to this program the regular business session of the American Association of Eye, Ear, Nose and Throat Society Secretaries will be held.

Secretaries of all Eye, Ear, Nose and Throat societies are invited to attend this dinner-meeting whether they are members, or not, of the Secretaries' Association. If you, as secretary of your society, cannot be present, please arrange for your president or another officer to take your place. We would like every society to be represented at this important meeting. Plan now to attend or to be represented.

Kenneth L. Craft, M.D., *Secretary*
1002 Hume Mansur Building
Indianapolis 4, Indiana

ALUMNI DINNERS

Monday, October 14, 1946, 6:30 p.m.

Dr. John F. Barnhill Alumni
Palmer House
Private Dining Room No. 17
C. H. McCaskey, M.D., Secretary
608 Guaranty Building, Indianapolis, Ind.

Bellevue Alumni Association
Palmer House
Private Dining Room No. 8
W. W. Wilkerson, Jr., M.D., Secretary
1022 Bennie-Dillon Bldg., Nashville, Tenn.

Brooklyn Eye and Ear Alumni
Palmer House
Private Dining Room No. 3
Leo J. Croll, M.D., Secretary
1326 Maccabees Bldg., Detroit, Mich.

Gill Memorial Eye, Ear and Throat Hospital—Spring Graduate Course
Stevens Hotel
W. J. Kibler, Jr., M.D., Secretary
333 Linwood Ave., Buffalo, N. Y.

Harper Hospital Alumni
Palmer House
Private Dining Room No. 4
Wesley G. Reid, M.D., Secretary
974 Fisher Bldg., Detroit, Mich.

Illinois Eye and Ear Infirmary Alumni Association
Palmer House
Red Lacquer Room
Glen W. Nethercut, M.D., Secretary
25 East Washington St., Chicago, Ill.

Iowa University Alumni
Palmer House
Private Dining Room No. 6
Byron M. Merkel, M.D., Secretary
1112 Equitable Building, Des Moines, Ia.

Dr. John R. Lindsay Alumni
Stevens Hotel
Private Dining Room No. 10
M. M. Hipskind, M.D., Secretary
6060 Drexel Ave., Chicago, Ill.

Massachusetts Eye and Ear Infirmary Eye Section Alumni
Location to be announced at the Registration Desk
Lorand V. Johnson, M.D., Secretary
Western Reserve University, Cleveland, Ohio

Mayo Clinic and University of Minnesota Alumni
Palmer House
Private Dining Room No. 9
Mark E. Nesbit, M.D., Secretary for Mayo Clinic
616 First National Bank Building
Madison, Wis.

George M. Tangen, M.D., Secretary for University of Minnesota
Medical Arts Bldg., Minneapolis, Minn.

Michigan Joint Alumni
Palmer House
Private Dining Room No. 11
Ralph O. Rychener, M.D., Secretary
1720 Exchange Building, Memphis 3, Tenn.

Dr. Harris P. Mosher Alumni
Palmer House
Private Dining Room No. 18
August L. Beck, Secretary
421 Huguenot St., New Rochelle, N. Y.

New York Eye and Ear Infirmary Alumni
Palmer House — Crystal Room
John S. Cregar, M.D., Secretary
150 Harrison St., East Orange, N. J.

New York Postgraduate Medical School and Hospital
Palmer House
Private Dining Room No. 5
James W. Smith, M.D., Secretary
1016 Fifth Avenue, New York, N. Y.

Pennsylvania University Alumni — Otolaryngology
Palmer House
Private Dining Room No. 15-16
Oram R. Kline, M.D., Secretary
514 Cooper St., Camden, N. J.

Presbyterian Hospital Institute of Ophthalmology Alumni Association
Palmer House
Private Dining Room No. 2
Charles A. Perera, M.D., Secretary
70 East 66th St., New York, N. Y.

Washington University Eye, Ear, Nose and Throat Alumni
Palmer House
Private Dining Room No. 14
Bennett Y. Alvis, M.D., Secretary
900 Carleton Bldg., St. Louis, Mo.

Wilmer Institute, Johns Hopkins Hospital
Palmer House
Private Dining Room No. 7
Jack S. Guyton, M.D., Secretary
Johns Hopkins Hospital, Baltimore, Maryland

Women Members
Palmer House
Private Dining Room No. 1
C. Souter Smith, M.D., Secretary
205 St. Louis St., Springfield, Mo.

PROGRAM IN BRIEF

1946 Meeting — Chicago

SATURDAY, OCTOBER 12, 1946

9:00 a.m.—Council Meeting—Private Dining Room No. 4

SUNDAY, OCTOBER 13, 1946

9:00 a.m.—Registration — Foyer to Grand Ball Room
9:00 a.m.—Official Opening of Exhibits —Scientific — Red Lacquer Room
Technical—Exhibition Hall
10:00 a.m.—Ladies' Registration — Rooms 15 and 16—Club Floor
10:00 a.m.—Meeting of Executive Committee on Industrial Ophthalmology—Private Dining Room No. 2
10:00 a.m.—Meeting of American Committee on Optics and Visual Physiology—Private Dining Room No. 1
2:30 p.m.—Scientific Program — Conservation of Hearing — Grand Ball Room
5:00 p.m.—President's Reception—Red Lacquer Room
8:00 p.m.—Scientific Program—Industrial Ophthalmology — Grand Ball Room
8:00 p.m.—Scientific Program — Otosclerosis Study Group — Private Dining Room No. 17
8:00 p.m.—Joint Symposium — American Orthoptic Council and American Association of Orthoptic Technicians — Private Dining Room No. 14

MONDAY, OCTOBER 14, 1946

9:00 a.m.—Scientific Section — Joint Session—Grand Ball Room
2:00 p.m.—Section on Ophthalmology—Scientific Papers and Movies —Grand Ball Room
2:00 p.m.—Instructional Conferences—ENT—Seventh Floor
3:15 p.m.—Instructional Conferences—ENT—Seventh Floor
4:30 p.m.—Instructional Conferences—ENT—Seventh Floor
6:30 p.m.—Alumni Dinners
9:00 p.m.—Smoker—Grand Ball Room

TUESDAY, OCTOBER 15, 1946

9:00 a.m.—Section on Otolaryngology — Scientific Papers and Movies—Grand Ball Room
9:00 a.m.—Instructional Conferences—Eye—Seventh Floor
10:15 a.m.—Instructional Conferences—Eye—Seventh Floor
11:30 a.m.—Instructional Conferences—Eye—Seventh Floor
12:45 p.m.—Technical Exhibitors' Luncheon—Crystal Room
2:00 p.m.—Section on Ophthalmology—Scientific Papers and Movies —Grand Ball Room
2:00 p.m.—Instructional Conferences—ENT—Seventh Floor
3:15 p.m.—Instructional Conferences—ENT—Seventh Floor
4:30 p.m.—Instructional Conferences—ENT—Seventh Floor
7:00 p.m.—Annual Academy Dinner — Grand Ball Room

WEDNESDAY, OCTOBER 16, 1946

9:00 a.m.—Section on Otolaryngology Scientific Papers and Movies —Grand Ball Room
9:00 a.m.—Instructional Conferences—Eye—Seventh Floor
10:15 a.m.—Instructional Conferences—Eye—Seventh Floor
11:30 a.m.—Instructional Conferences—Eye—Seventh Floor
12:45 p.m.—Council Meeting and Luncheon—Private Dining Room No. 5
2:00 p.m.—Section on Ophthalmology—Scientific Papers and Movies —Grand Ball Room
2:00 p.m.—Instructional Conferences—ENT—Seventh Floor
3:15 p.m.—Instructional Conferences—ENT—Seventh Floor
4:30 p.m.—Instructional Conferences—ENT—Seventh Floor
5:30 p.m.—Dinner Meeting of American Association of Eye, Ear, Nose and Throat Society Secretaries—Private Dining Room No. 18
8:00 p.m.—Business Meeting—Grand Ball Room

THURSDAY, OCTOBER 17, 1946

9:00 a.m.—Section on Otolaryngology—Scientific Papers and Movies—Grand Ball Room

9:00 a.m.—Instructional Conferences—Eye—Seventh Floor

10:15 a.m.—Instructional Conferences—Eye—Seventh Floor

11:30 a.m.—Instructional Conferences—Eye—Seventh Floor

12:45 p.m.—Faculty Luncheon — Private Dining Room No. 14

2:00 p.m.—Section on Ophthalmology—Scientific Papers and Movies—Grand Ball Room

2:00 p.m.—Instructional Conferences—ENT—Seventh Floor

3:15 p.m.—Instructional Conferences—ENT—Seventh Floor

4:30 p.m.—Instructional Conferences—ENT—Seventh Floor

6:30 p.m.—Reception First Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology — Foyer to Grand Ball Room

7:30 p.m.—Dinner Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology—Grand Ball Room

FRIDAY, OCTOBER 18, 1946

9:00 a.m.—Section on Otolaryngology and First Scientific Session of Pan-American Congress Scientific Papers and Movies—Grand Ball Room

9:00 a.m.—Instructional Conferences—Eye—Seventh Floor

10:15 a.m.—Instructional Conferences—Eye—Seventh Floor

11:30 a.m.—Instructional Conferences—Eye—Seventh Floor

SCIENTIFIC PROGRAMS

Conservation of Hearing

GRAND BALL ROOM

Sunday, 2:30 p.m.

DEAN M. LIERLE, M.D., *Chairman*

1. Fitting of Hearing Aids
   Raymond Carhart, Ph.D., Northwestern University
   Evanston, Illinois
   BY INVITATION

2. Public School Hearing Program and Demonstration
   Charles E. Kinney, M.D.
   Cleveland, Ohio

3. Demonstration in Lip Reading
   Howard Carter
   Council on Physical Medicine
   American Medical Association
   Chicago, Illinois
   BY INVITATION
   and
   Harold Westlake, Ph.D.
   Department of Speech
   Northwestern University
   Chicago, Illinois
   BY INVITATION

Industrial Ophthalmology

GRAND BALL ROOM

Sunday, 8:00 p.m.

DERRICK VAIL, *M.D.*
Chairman

American Orthoptic Council
and
American Association of Orthoptic Technicians

Joint Symposium

PRIVATE DINING ROOM NO. 14

Sunday, 8:00 p.m.

LEGRAND HARDY, M.D.
Chairman

1. The Place of Peripheral Fusion in Orthoptics
   Hermann Burian, M.D.
   Boston, Mass.
   Discussion by Mrs. Elsie Laughlin, Iowa City, Ia.

2. Which Squinters Respond Best
   Miss Edith Roth, Milwaukee, Wis.
   Discussion by Frank Costenbader, M.D., Washington, D. C.

3. The Significance of a Vertical Component in Squint
   Miss Mary Kramer
   Washington, D. C.
   Discussion by Ernest Sheppard, M.D., Washington, D. C.

Otosclerosis Study Group

PRIVATE DINING ROOM NO. 17
Sunday, 8:00 p.m.

GEORGE E. SHAMBAUGH, JR., M.D.
Chairman

1. Investigation of Electrical Potentials in the Human Cochlea
   Julius Lempert, M.D., New York, New York
   Ernest Glen Weaver
   Merle Lawrence

2. Further Observations on Healing of Experimental Labyrinthine Fistulas
   John R. Lindsay, M.D.
   Chicago, Ill.

3. Results of Animal Experiments on Fenestration Surgery
   Philip E. Meltzer, M.D.
   Boston, Mass.
   Dorothy Wolff, Ph.D.
   Boston, Mass.

4. Clinical and Experimental Studies of Postoperative Serous Labyrinthitis
   George E. Shambaugh, Jr., M.D.
   Chicago, Ill.
   Arthur L. Juers, M.D.
   Chicago, Ill.

5. Present Status of Fenestration Surgery
   Julius Lempert, M.D.
   New York, N. Y.

SCIENTIFIC SECTIONS

JOINT SESSION

Monday, October 14, 1946, 9 a.m.
GRAND BALL ROOM

Presiding Officer:
GORDON B. NEW, M.D., *President*

Secretary in Charge:
Algernon B. Reese, M.D.

Call to Order ..... The President

Announcements, The General Chairman
G. Henry Mundt, M.D., Chicago, Ill.

Introduction of Guest of Honor

Introduction of Special Guests

Presentation of Hal Foster Portrait

Address of the President
Gordon B. New, M. D., Rochester, Minn.

Address of the Guest of Honor
George Morrison Coates, M.D., Philadelphia, Pa.

Two Problems—Care of the Deafened and Rhinoplastic Surgery

SCIENTIFIC PROGRAM

Symposium: *Irradiation Therapy in Otolaryngology and Ophthalmology*

GENERAL FACTORS IN IRRADIATION THERAPY
Curtis Burnam, M.D., Baltimore, Md.
BY INVITATION

OTOLARYNGOLOGY — *WHERRY MEMORIAL LECTURE*
Samuel J. Crowe, M.D., Baltimore, Md.

OPHTHALMOLOGY
Charles E. Iliff, M.D., Baltimore, Md.
BY INVITATION

Authors of Papers

Please be prepared to submit papers to the recorder immediately following presentation.

There will be discussion of papers presented at the scientific sections Monday afternoon through Friday morning.

Section on Ophthalmology

MONDAY, OCTOBER 14, 1946

2:00 p.m.
GRAND BALL ROOM

Presiding Officer:
EDMUND B. SPAETH, M.D.
First Vice President

Secretary:
ALGERNON B. REESE, M.D.

Tests for Heterophoria

RICHARD G. SCOBEE, M.D.
St. Louis, Mo.

Discussers:
JOHN H. DUNNINGTON, M.D.
New York, N. Y.
GLEN G. GIBSON, M.D.
Philadelphia, Pa.

Muscle balance is a subject in which the student of ocular functions almost invariably takes an early interest until he finds that some patients with large amounts of heterophoria are quite comfortable and until he finds that the amount of manifest heterophoria in any one individual seems to vary from day to day and even from moment to moment.

There are innumerable tests for heterophoria, each with its ardent advocates. This simply means that no single test is completely satisfactory. A critical analysis of the most common tests employed reveals some rather striking facts, particularly when viewed in the light of modern methods of statistical comparison. The following tests of heterophoria have been carefully studied at testing distances of either 20 feet or 13 inches or both: the screen and parallax test, von Graefe's prism diplopia test, the Maddox rod test, the screen-Maddox rod test, the Thorington test, and the Maddox wing test. Since the screen and parallax test seems universally regarded as the most accurate, it was used as the yard stick for the comparisons.

Many variations in performing the Maddox rod test are found. These include:

(a) administering the test in a lighted or in a completely darkened room, (b) placing the Maddox rod before either the dominant or the nondominant eye, and (c) the apparently trivial matter of whether a red or a white Maddox rod is used in the test. Significant variations produced by such alterations in technic in terms of changing the heterophoria readings were found and are discussed.

Some ophthalmologists use the screen-Maddox rod test, feeling that it is more accurate than the Maddox rod test. These two tests are, therefore, compared. It is found that the addition of intermittent occlusion of the eye behind the Maddox rod to the Maddox rod test uncovers, on the average, more esophoria and less exophoria. The reasons for this finding are discussed.

The statement is often found in the literature that the amount of heterophoria in any one individual varies from day to day and even from moment to moment. It is, in fact, an almost universally accepted belief. Evidence will be brought forward to challenge definitely this conception.

Chavasse wrote of heterophoria that it was " . . . a subject about which much that helps little has been written." It is indeed true. This paper is the first of a series of reports on heterophoria and is concerned chiefly with a comparison of commonly used tests. It is hoped that subsequent work will reveal something more of the etiology of heterophoria than the term "innervational," since the la ter simply means that we do not know.

2:40 p.m.

Iontophoretic Application of Antibiotics on the Eye

(A Motion Picture)

L. von SALLMANN, M.D.
New York, N. Y.

BY INVITATION

The film shows the ionization apparatus and the electrodes used in corneal and palpetral iontophoresis. The steps in the procedure are illustrated in detail. The effect of the method in increasing drug levels in various parts of the eye is presented by charts from which the general indications for the use of the method are deduced.

2:50 p.m.

Some Phases of Ocular Leprosy

(A Motion Picture)

ROBISON D. HARLEY, M.D.
Atlantic City, N. J.

BY INVITATION

The film begins by showing a panorama view of Palo Seco Leper Colony in Panama. The typical physical appearance and gait of the advanced mixed type leper is illustrated. There are approximately 18 close-up views of leper eyes which show the following pathologic conditions:

Leprous superficial keratitis, interstitial keratitis, keratitis profunda, severe plastic leprous iritis, complicated cataract secondary to iritis, limbal lepromas, staphylomas, phthisis bulbi, lagophthalmos and nasal septal defects.

3:05 p.m.

Visual Training to Improve Sight in Myopic Patients

H. ROMMEL HILDRETH, M.D.
WILLIAM H. MEINBERG, M.D.
BENJAMIN MILDER, M.D.
LAWRENCE T. POST, M.D.
THEODORE E. SANDERS, M.D.
St. Louis, Mo.

Discussers:
ALAN C. WOODS, M.D.
Baltimore, Md.
KENNETH C. SWAN, M.D.
Portland, Ore.

Using the technic customarily employed by those who routinely practice visual training in the hope of favorably influencing myopia, 54 carefully selected patients were completely studied in the Washington University Department of Ophthalmology under the direction of a committee of ophthalmologists and optometrists.

Only patients having 3 diopters or less of myopia, 1 or less diopters of ametropia, 1 diopter or less of astigmatism, and between the ages of 9 and 30 were selected. This choice was made because it was thought that these patients would be the most favorable for the visual training. Obviously only those who were interested in making the attempt were included. Several started the program, but did not follow through to the conclusion.

Preliminary checks were made by the ophthalmologists with and without cycloplegia. Training was given by a technician under the direction of an optome-

trist who had been employing the technic for many years. The final check-up was made by the ophthalmologists.

The program was confined to an effort to improve the visual acuity in the patients participating. No attempt to ascertain any of the corollary problems was made, unless one might consider final analysis of the causes for improvement for those cases in which this took place as an additional point in the program.

This paper presents results of this study and the conclusions arrived at by the ophthalmologists working on the subject. A paper will be prepared by the optometrists and their conclusions presented before an optometric organization.

3:45 p.m.

A Method for Extraction of Subluxated and Dislocated Lenses from the Vitreous

(A Motion Picture)

G. BONACCOLTO, M.D.
New York, N. Y.

The method is presented accompanied with six colored slides portraying the main steps of the operation. Three moving pictures in color, representing 3 cases of dislocated lens, are shown.

The operation is preceded by lid sutures, substituted for the speculum, retrobulbar injection of novocaine and suture of the superior rectus muscle. A conjunctival incision is made 2mm. above the limbus and carried concentrically with it. Three double-armed silk sutures are passed 2mm. from the limbus at 10, 12 and 2 o'clock. A keratome incision, at the superior limbus, is completed with scissors. The arms of the superior sutures are placed through the conjunctiva attached to the cornea. The conjunctival flap is firmly held with fine forceps, while the cataract loop is introduced into the vitreous and passed quickly behind the lens, pushing it against the cornea. This is done with a quick traction movement. The lens is expelled from the anterior chamber. The superior suture is gently tied, after which the auxiliary sutures are passed and tied.

Seven patients were operated on with successful results.

4:00 p.m.

Preoperative X-ray Reconstruction of the Orbit

LT. COL. E. L. SHIFLETT, M.C.
Cleveland, Ohio

BY INVITATION

Discussers:

LT. COL. GILBERT C. STRUBLE, M.C.
Phoenixville, Pa.

RAYMOND L. PFEIFFER, M.D.
New York, N. Y.

We have many patients with badly comminuted fractures of the orbital and facial bones who are undergoing reconstructive surgery of the orbit. Success in this field depends to a large extent upon restoration of the orbit either by replacement of fragments, removal of fragments, or substituting tissue or material for lost bone tissue. The correct total diagnosis of bony deformities is shared by the radiologist and often is dependent upon him almost entirely.

The surgeon is often handicapped in the operating room by having only flat x-ray films on a view box available for reference. These are inadequate to guide him unless he has a clear and fixed mental impression of the deformities from previous stereoscopic studies of these films. There are also individuals who suffer extensive damage to the internal orbit from high explosive fragments without evidence of fracture of the external orbit wall. Unless this is appreciated and all cases x-rayed preoperatively to determine the presence or absence of damage of this type, reconstructive surgery is often disappointing. Lt. Col. Struble stated some of these difficulties to the Radiological Service and asked if there was any way by which the total extant of the damage to the orbit might be portrayed in the interest of better reconstruction. We considered many ways of attempting this and finally chose the simplest way which suggested a practical and workable solution to the problem. We began to make orbital tracings from these cases and were surprised and pleased with the efficiency and workable accuracy of such a simple procedure.

Stereoscopic posterior-anterior films in the chin-nose position, the nose and chin resting heavily on the film, and stereoscopic laterals, injured side down, are made. The films are processed in the

usual way and all studied stereoscopically and psuedoscopically. Under stereoscope vision the normal and abnormal bone structure is marked on one of the pair of films with an indelible pencil using the normal orbit as a guide. After all fractures are identified and defects in the orbit created by the fractures noted and traced on the film, the film is removed and placed upon an ordinary view box. The preliminary tracing just described is traced on the right side of the film as the individual faces the stereoscope providing the observer is right handed; the left side of the film is traced if the observer is left handed. After placing this tracing on the ordinary view box lying in the horizontal position a piece of clear transparent paper is placed over the film and the tracing is recopied on the paper. We find architectural blueprint tracing paper is best for this purpose because of its great transparency and durability. This may be done with pencil or ink. We find the ordinary tracing pen and India ink quite satisfactory. Enough of the bony outline of the face is included to permit the appreciation of facial symmetry or asymmetry. The vertical and horizontal meridians of the different orbits are measured and noted, and compared with increased or decreased dimensions of the involved orbit. The combined anterior-posterior and lateral tracings convey to the surgeon the three-dimensional defects which can not be appreciated by verbal consultation or by a short descriptive report. This graphic and written report is now placed on the patient's record so that it may be taken to the surgery for refresher reference when needed. In a number of cases following reconstructive surgery in which the element tantalum, which is radiopaque, has been used to fill the defects, the procedure has been repeated after operation. It has indeed been gratifying how closely the two tracings duplicate each other and how well the defects in orbital volume have been corrected. It might be said that the radiologist benefits from this procedure as well as the surgeon, for it demands accurate study and a thorough knowledge of the anatomy involved. In complicated fractures it is sometimes necessary to make the original film tracing with different colored pencils to indicate the different depths, planes and relationships of fragments. During one stage of the development of this procedure it was believed that the relationship of the depressed orbital fracture to the weight bearing surface of the globe might play an important role, particularly in downward displacement of orbital contents. A study of the orbit was accordingly made to determine the relationship of the floor of the orbit to the globe in different types of orbits. Fifty unselected cases on which Sweet localizations had been done were used for this investigation. The globe was reconstructed in the orbit by using the horizontal plane of the cornea and the summit of the cornea as fixed planes, as established by the first film of the localizing films in which ball and cone are superimposed. A sphere with a 25 mm. diameter was constructed so that the anterior surface was exactly 10 mm. from the ball, and so that this diameter corresponded to the projected horizontal plane as established by the Sweet apparatus. All other planes in reference to facial and orbital physiognomy were constructed from the horizontal axis of the globe. It was felt that this established a workable accurate relationship of the globe to the orbit and bones of the face which enter into surgical relationship in orbital reconstruction. We were somewhat surprised to find that the globe normally lies in a position rather high in the orbit. From a study of these normals we have shown that orbits may be classified into three types: the enophthalmic type in which the vertical plane of the summit of the cornea lies well posterior to the orbital floor and constitutes 42 per cent of cases; the exophthalmic type in which the summit of the cornea lies on an average of four mm. to the anterior surface of the orbital floor constituting 32 per cent; and a third type in which the summit and anterior margin of the orbital floor are flush. These three types are definite, unmistakable, and subject to wide variations. A review of this subject, together with the variables, will be presented. One point especially brought out by this work was that although there may be averages in orbital measurements, the variable in individuals is great so that the only approximate normal is the opposite orbit. These studies have also indicated that a defect in the orbital floor, **regardless of its localization,** will affect the position of the globe or implant due to the pro-

lapse of periorbital tissue through the defect pulling the globe with it.

We do not claim extreme accuracy. We certainly feel, however, that this method gives sufficient accuracy to be used as a guide in surgical reconstruction. These studies are simple to perform, require little extra time, and can be performed by any radiologist and, given the films and equipment, by the surgeon himself.

4:40 p.m.

Corneal Transplant Operation
(A Motion Picture)
JACK S. GUYTON, M.D.
Baltimore, Md.

The eye is prepared as for a cataract extraction, with O'Brien akinesia and retrobulbar injection of 1 cc. of 2% novocaine containing adrenalin 1:50,000. The pupil is widely dilated with 1% atropine solution and 10% neosynephrine solution. An automatic trephine is used to cut two circular grafts from the donor cornea. A blade from 4.0 to 5.5 mm. in diameter, with a stop, is used to cut the grafts. The same size blade is used to demarcate the disc to be removed from the recipient cornea. A continuous suture of 6-0 braided black silk is then placed in the recipient cornea and the portions of the suture overlapping the disc are folded back out of the way. The disc is then cut out of the recipient cornea with the automatic trephine. With this trephine the edges are not beveled, and the disc is cut out intact with the trephine blade alone, scissors not being required to complete its removal. The graft is then placed in position and the suture tied to hold it properly. Atropine 1% solution is instilled followed by penicillin ointment, and a binocular dressing is applied. The suture is removed on about the tenth postoperative day.

4:50 p.m.

Technic of Cyclodiathermy Puncture
(A Motion Picture)
FREDERICK W. STOCKER, M.D.
Durham, N. C.

BY INVITATION

Superficial anesthesia with 4% cocaine or 1% pontocaine. Subconjunctival injection of 2% novocaine-adrenalin, a small quantity being injected in the direction of inferior rectus muscle, when operation performed on lower part of ciliary body. Conjunctiva incised from external rectus to internal rectus 5 mm. from limbus. Squint hook passed under inferior rectus muscle for fixation and exposure. Sclera of ciliary area denuded and kept dry. Diathermy punctures of 1 to 1½ seconds duration each made in sclera not closer than 2½ to 3 mm. to limbus, covering the whole area from external to internal rectus and as far back as insertion of latter. A needle .50 mm long with very little current is used, just enough to make visible a slight coagulation on sclera. Apply punctures vertically. Tentative formula for calculating the number of punctures in chronic simple glaucoma; Millimeters H g (Shioetz) +30 equals number of punctures. Closure of conjunctiva with running silk suture, which is removed after 5 days. Neither miotic nor mydriatic is used immediately after the operation. Penicillin ointment, dressing.

Section on Otolaryngology

TUESDAY, OCTOBER 15, 1946
9:00 a.m.
GRAND BALL ROOM

Presiding Officer:
W. H. JOHNSTON, M.D.
Second Vice President

Secretary:
O. E. VAN ALYEA, M.D.

A Newer Concept in the Management of Otogenic Infection
MERRILL B. HAYES, M.D.
Chester, Pa.
and
FREMONT C. HALL, M.D.
Chester, Pa.

BY INVITATION

Discussers:
BERNARD J. McMAHON, M.D.
St. Louis, Mo.
REA E. ASHLEY, M.D.
San Francisco, Calif.

Otologic practice, in the temperate zone at any rate, resolves itself into two phases. One phase occurs during the winter months and involves essentially the middle ear and its environs; the other phase appears during the summer months and involves the external ear.

The infectious agents in the first, or winter variety, are the Gram positive group of bacteria which respond quite satisfactorily, in most cases, to the sulfo-

namides and antibiotics. The second group, or summer variety, are usually caused by the Gram negative bacteria which do not respond to the aforementioned agents.

One hundred and sixty successive cultures from one hundred ears were studied. These were analyzed and a new agent was evolved in an effort to combat the Gram negative organisms, primarily the Pseudomonas aeruginosa group which was found to be predominant in external and chronic suppurative ear infections.

This new agent is extremely fungicidal and is very effective against the Gram negative group of bacteria.

9:40 a.m.

Clinic on the Deafened
(A Motion Picture)

SAMUEL J. KOPETZKY, M.D.
New York, N. Y.
and
RALPH ALMOUR, M.D.
New York, N. Y.

The differentiation of those many persons suffering from deafness is the outstanding problem of the moment. This is not only the paramount question needing a competent answer to indicate therapy, but at this time when surgical procedures are having a vogue, is an essential factor to be used, not only preparatory to submission to surgery, but to obtain the maximum improvement in hearing acuity **before** surgery is undertaken. Hence this film is not so much a description of surgical technic, although this is touched upon in passing, as that it comprises a clinic of cases and factors, which differentiates the cases one from the other.

The film comprises the prevalent theories of sound perception, and the principle causes of deafness. It portrays diagnostic determinations. Audiometry is explained, and both medical and surgical therapy is evaluated. This is done by means of animations and drawings to supplement clinical material. The film is in color and sound.

10:10 a.m.

The Use of Streptomycin in the Treatment of Laryngeal Tuberculosis

FREDERICK A. FIGI, M.D.
Rochester, Minn.

Discussers:

H. CORWIN HINSHAW, M.D.
Rochester, Minn.
BY INVITATION

FRANK R. SPENCER, M.D.
Boulder, Colo.

This presentation is a report on observations made by Doctor Figi and Doctor Hinshaw in the treatment of laryngeal tuberculosis with streptomycin. One of the three cases being presented was previously reported in the Proceedings of the Staff Meetings of the Mayo Clinic. This case showed diffuse tuberculous involvement of the entire glottis. This had been progressive up to the time treatment with streptomycin was instituted. Upon examination five months later, the larynx appeared perfectly normal.

10:45 a.m.

The One-Stage Operation for Pulsion Diverticulum of the Hypopharynx
(A Motion Picture)

CHEVALIER L. JACKSON, M.D.
Philadelphia, Pa.

This film illustrates the technic used at the Chevalier Jackson Clinic for one-stage esophagoscopically-guided operation for pulsion diverticulum of the hypopharynx. The diverticulum is exposed through the space between the sternomastoid muscle and the carotid sheath laterally, and the ribbon muscles, thyroid gland and larynx medially. The esophagoscope is introduced to facilitate identification and cleansing of the sac and then advanced into the thoracic esophagus over a previously swallowed string, being left in place as the neck of the sac is identified and guy sutures placed. The sac is then amputated and hypopharynx closed.

11:15 a.m.

Military Plastic Surgery

JAMES BARRETT BROWN, M.D.
St. Louis, Mo.

BY INVITATION

Discussers:

W. H. STEFFENSEN, M.D.
Grand Rapids, Mich.

JAMES T. MILLS, M.D.
Dallas, Texas
BY INVITATION

12:00 n.

Demonstration of New Instruments

Members having new instruments, drugs and methods for demonstration will please contact the Secretary in charge of the meeting.

Section on Ophthalmology

TUESDAY, OCTOBER 15, 1946

2:00 p.m.

GRAND BALL ROOM

Presiding Officer:
BRITTAIN F. PAYNE, M.D.
Third Vice President

Secretary:
ALGERNON B. REESE, M.D.

The Transplantation of Human Vitreous

NORMAN L. CUTLER, M.D.
Wilmington, Del.

Discussers:
FREDERICK C. CORDES, M.D.
San Francisco, Calif.

JOHN McGAVIC, M.D.
Phoenixville, Pa.

A brief summary is given of the history of vitreous aspiration. Several cases in which, for the first time, hemorrhagic human vitreous has been aspirated and replaced with clear vitreous from enucleated eyes are reported. The use of this procedure on operations for detachment of the retina is considered.

2:40 p.m.

Scleral Resection for Detachment of the Retina

(A Motion Picture)

DONALD WEEKS BOGART, M.D.
New York, N. Y.

The film illustrates a new technic for scleral resection, employing a new suture and a simplified and safe method of cutting through the sclera.

The operator has performed well over 100 operations employing this method with approximately 60 per cent of marked improvement. The majority of the cases had been operated on a number of times by diathermy and had been declared inoperable by that technic. The series includes all types of eyes—at least 30 per cent being aphakic.

The operating time is reduced to 20 to 30 minutes by the use of this method.

3:00 p.m.

The Operation of Scleral Resection as Used in Retinal Detachment

(A Motion Picture)

WILLIAM E. BORLEY, M.D.
San Francisco, California

This operation was first proposed by Leopold Muller in 1903 for the treatment of retinal detachment in high myopia. It was his belief that detachment in highly myopic eyes resulted from a transudation under the retina due to a stretching of the choroid. This choroidal transudation was controlled by a relaxation of this vascular layer following shortening of the scleral envelope. At the time he described his operation however, the importance of the retinal tear was not recognized. In 1913 he reported two successful cases of a total of nineteen operations. In fourteen of these cases he exposed the operative field on the temporal side of the globe through the Kronlein approach.

In spite of a fair number of successes from 1903 to 1919, the operation appears to have fallen into discard, and it was not revived again until 1933 when Lindner reported twelve eyes operated on by this method which was a slight modification of the original operation. Lindner believed that the best results were obtained in cases of detachment associated with aphakia, with gross nystagmus and with marked folding of the retina.

From the author's experience in approximately thirty operations, the above indications hold true. In addition, the operation of scleral resection alone, and in combination with diathermy, has been used in cases of detachments with large disinsertions, in those of long standing associated with retinal cysts resulting from trauma, and in cases of detachment following congenital retinal septa. In one case of high myopia without detachment, the operation was done on both eyes.

3:20 p.m.

Foreign Bodies of the Globe—Symposium
Pathology
HELENOR CAMPBELL WILDER
Washington, D. C.
BY INVITATION
Experimental Work on Intraocular Foreign Bodies
LT. COL. G. C. STRUBLE, M.C.
Phoenixville, Pa.
X-Ray Localization of Intraocular Foreign Bodies
W. H. DROEGEMUELLER, M.D.
Greeley, Colo.
Surgery of Intraocular Foreign Bodies
TRYGVE GUNDERSEN, M.D.
Boston, Mass.

4:20 p.m.

Repair of Orbital Defects with Glass Wool
(A Motion Picture)
ARTHUR GERARD DeVOE, M.D.
New York, N. Y.

This film demonstrates the subperiosteal insertion of glass wool in the orbital floor as a means of restoring orbital volume. The original injury may be either a fracture of the floor or trauma subsequent to an enucleation.

4:40 p.m.

Tendon Transplants for the Correction of Paralytic Squint Due to Paralysis of the External Rectus Muscle
(A Motion Picture)
EDMUND B. SPAETH, M.D.
Philadelphia, Pa.

The correction of a paralytic squint due to a paralysis of the external rectus muscle is readily corrected by tendon transplants from the superior and the inferior recti. This technic should not be used, however, if it is impossible to bring the eyeball up to the midline, or very close to that degree of external rotations. Lesser degrees of surgery will be as effective in such instances. The external rotation obtained through this surgery is probably due to the more effective use of the two oblique muscles (an effect which increases in proportion to the amount of external rotation present) plus the decrease in internal rotation through the recession of the internal rectus muscle and through the still further decrease in internal rotation usually derived from the conjoined action of the superior and inferior recti.

Section on Otolaryngology

WEDNESDAY, OCTOBER 16, 1946

9:00 a.m.

GRAND BALL ROOM

Presiding Officer:
GORDON B. NEW, M.D.
President

Secretary:
O. E. VAN ALYEA, M.D.

Some Otolaryngologic Aspects of Wry Neck — Presentation of Three Cases of Atlanto-Axial Dislocation

JAMES H. MAXWELL, M.D.
Ann Arbor, Mich.

Discussers:

W. E. GROVE, M.D.
Milwaukee, Wis.

GORDON F. HARKNESS, M.D.
Davenport, Iowa

After a general consideration of torticollis the various types of this condition more commonly encountered by the otolaryngologist are discussed. The differential diagnosis of the condition is outlined particularly in regard to the muscular and skeletal types. Diagnostic criteria are established for congenital torticollis, and wry neck due to inflammatory conditions in the muscles, glands and vertebrae of the neck. Atlanto-axial dislocations are discussed in some detail in their relation to otolaryngologic practice and particularly as complications of mastoidectomy.

Case histories of three patients with atlanto-axial dislocations are presented.

9:40 a.m.

Fascial Support of the Paralyzed Face
(A Motion Picture)
JAMES BARRETT BROWN, M.D.
St. Louis, Mo.
BY INVITATION

9:55 a.m.

Plastic Operations on the Nose
(A Motion Picture)
JAMES BARRETT BROWN, M.D.
St. Louis, Mo.
BY INVITATION

10:10 a.m.

Septic Thrombophlebitis of the Neck
RUSSELL M. DECKER, M. D.
Pasadena, California

Discussers:
J. M. BROWN, M.D.
Los Angeles, Calif.
FREDERICK T. HILL, M.D.
Waterville, Maine

Septic thrombophlebitis of the cervical veins constitutes one of the most serious and dreaded complications of infectious processes in the neck. Fortunately, this complication is of a rather infrequent occurrence, and the outcome depends a great deal on the early recognition, and the prompt employment of proper medical and surgical procedures.

The avenue of infection in the majority of cases invades the vein from without, the phlebitis being produced by a cellulitis of the surrounding tissue. This cellulitis may extend along the course of the vein so that the phlebitis has every facility for extension. In other cases the inflammation may be due to pyogenic bacteria carried directly to the wall of the vein, with the early formation of a septic thrombosis.

The etiology is extremely varied, and can result from any deep neck infection from any source. The symptomatology is clinically one of the most important parts of the subject. Physical findings and differential diagnosis must be carefully considered.

The treatment of septic thrombophlebitis of the neck is both medical and surgical. A great deal depends upon the adjuvant chemotherapy and antibiotics.

10:50 a.m.

The Irradiation of the Eustachian Tubes
(A Motion Picture)
EDMUND P. FOWLER, JR., M.D.
New York, N. Y.

This film will be a demonstration in the methods of examination, type of case suitable, method of application of the radium, protection of the operator and the care of the applicator.

11:05 a.m.

Closure of a Postauricular Fistula by the Endaural Approach
(A Motion Picture)
HOWARD P. HOUSE, M.D.
Los Angeles, Calif.

Closure of postauricular fistulas have often been unsuccessful due to excessive skin tension. This motion picture reveals how this may be avoided through mobilizing the ear by means of the endaural approach, thereby eliminating skin tension along the freshened edges of the postauricular fistula.

11:15 a.m.

Unusual Symptomatology of Sphenoiditis
GEORGE E. TREMBLE, M.D.
Montreal, Canada

Discussers:
FRANK R. SPENCER, M.D.
Boulder, Colorado
FRED W. DIXON, M.D.
Cleveland, Ohio

The symptoms of subacute or chronic sphenoiditis most commonly mentioned in modern text books are headache, disturbances due to post-nasal discharge and vertigo. Cacosmia, or an unpleasant odor, experienced by the patient, is also a frequent and sometimes the only symptom of chronic sphenoiditis. However, its importance has not been stressed.

Infection with retention of secretion in any of the sinuses is often the source of cacosmia but the antrum and sphenoid are most likely to cause this symptom due to their large size and the free exchange of air from these cells. The position of the ostia which hinder dependent drainage also is partly responsible.

This paper deals with the pathways of drainage from the sinuses, the normal air currents through the nose on inspiration and expiration and their practical application in the diagnosis of these different cases.

Section on Ophthalmology

WEDNESDAY, OCT. 16, 1946

2:00 p.m.

GRAND BALL ROOM

Presiding Officer:
EDMUND B. SPAETH, M.D.
First Vice President

Secretary:
ALGERNON B. REESE, M.D.

Reconstructive Surgery of the Eyelids
ELBERT S. SHERMAN, M.D.
Newark, N. J.

Discussers:

EDMUND B. SPAETH, M.D.
Philadelphia, Pa.

JAMES N. GREEAR, M.D.
Washington, D. C.

From the summer of 1944 to the spring of 1946, nine of the Army General Hospitals in this country were designated as plastic and ophthalmic centers. Of the large volume of casualties evacuated to these centers for reconstructive surgery during that period, each center handled from 300 to 400 patients requiring ophthalmic reconstructive surgery. In some of these hospitals this type of surgery was the function of the Eye Service, in others of the General Plastic Service.

Certainly all of us who did much of this work are greatly indebted to the late Dr. John M. Wheeler for the methods and principles developed and advocated by him. For vertical scars of the full thickness of the eyelid with notch deformities at the margin, and for small full thickness loss of an eyelid Wheeler's halving repair has been the procedure of choice. For skin loss from burns or lacerations with resulting cicatricial ectropion or lagophthalmos we have found no better method of correction than that used by Wheeler, with the use of intermarginal lid adhesions, proper preparation of the bed for skin grafting, and the use of full thickness upper eyelid skin or posterior auricular skin for the graft.

All degrees of full thickness loss of the upper or lower eyelid have been encountered. For loss of a large part of the tarsal portion of an eyelid, Dr. Wendell Hughes' method of reconstruction has been very useful. In some of the more extensive losses it has been necessary to use sliding skin flaps as a preliminary procedure before joining the eyelids according to Hughes' method. When there has been a moderate or large loss of bone of the orbital margin this has been replaced by cancellous bone graft from the ilium. In some of these cases it has also been necessary to enlarge the eye socket with mucous membrane grafts. A number of illustrative cases will be discussed together with the methods used for reconstruction.

2:40 p.m.

A New Ophthalmoscope Demonstration
(A Motion Picture with Sound)
C. L. SCHEPENS, M.D.
Brussels, Belgium
BY INVITATION

A sound film giving the author's method of studying retinal detachment with a special binocular ophthalmoscope.

3:00 p.m.

The Use of X-ray Therapy for Retinal Diseases Characterized by New-Formed Blood Vessels (Eales Disease, Retinitis Proliferans) A preliminary report.
J. S. GUYTON, M.D.
Baltimore, Md.

A. B. REESE, M.D.
New York, N. Y.

Discussers:

MOACYR E. ALVARO, M.D.
Sao Paulo, Brazil

WILLIAM L. BENEDICT, M.D.
Rochester, Minn.

Intensive x-ray therapy to the posterior ocular segment has been given during the past 18 months in a series of cases diagnosed as "Eales' Disease" or as "retinitis proliferans". This therapy has given such encouraging results that a preliminary report seems justifiable.

The ocular disease has been characterized by recurrent retinal and vitreous hemorrhages and by new-formed blood vessels and glial tissue extending from the retina into the vitreous. The basic lesions responsible for this type of pathologic response are discussed.

Irradiation to an affected eye has consisted of dosages ranging from 3000 r to 15,000 r given according to the special technic for the treatment of retinoblastoma. In general, the irradiation caused collapse of new-formed vessels, cessation of recurrent vitreous hemorrhages, stopped progression of gliosis, but did not cause a disappearance of solid glial tissue already extending into the vitreous.

3:40 p.m.

The Removal of Adjacent Nevi of the Eyelids
(A Motion Picture)
ALSTON CALLAHAN, M.D.
Birmingham, Alabama

This film shows a procedure recommended for the surgical repair of adjacent nevi of the eyelid. In a 21-year old man the nevus of the upper lid measured 15 mm. by 6 mm. and the lower 12 mm. by 6 mm. Only at the lid margins did the nevi extend through the entire thickness of the lid and neither tarsus was involved. The nevi had been present as very small brown spots until the past several years.

At the first-stage operation, diathermy cutting current was used to remove the nevi with 3 to 4 mm. of normal tissue surrounding them, and in the region of the nevi both lids were divided into a posterior lamina of tarsus with mucous membrane, and an anterior lamina of skin, subcutaneous tissue, and muscle. The posterior laminae were jointed with chromic catgut sutures. The skin defect was supplied by a free skin graft from the left upper eyelid and to prevent undue tension on the medial extremity of the graft, a lid adhesion was placed half the distance between the graft and the nasal end of the lids.

Microscopic examination of the tumors revealed clusters of nevus cells and considerable malnin pigment beneath an atrophic epithelium. There was no evidence of malignancy.

Three months later, the second-stage operation was performed. An incision was made through the skin into the subcutaneous tissues across the center of the previously transferred skin graft and an area of hair-bearing skin; the width including four rows of cilia and the length approximately that of the previous skin graft was removed from the right eyebrow. This was sutured into the incision created for it. This area of hair-bearing skin grew excellently, and, as is often the case, the cilia present in the graft fell out, a few at a time, with loss of about all in 10 days. In three weeks, however, the hair follicles of the center rows had begun to grow new cilia, and by the latter part of July there was an excellent line of them. A few months later the final stage operation was performed at which time the lids were divided just below the cilia line.

The patient was observed for one year postoperatively and a satisfactory result was obtained.

3:50 p.m.

Tantalum Plate Reconstruction of Supraorbital Rim (A Motion Picture)

ALSTON CALLAHAN, M.D.
Birmingham, Ala.

A severe frontal sinusitis in a 26-year-old male became complicated by orbital cellulitis and chronic osteomyelitis of the frontal bones. Incision and removal of the sequestrum was done a month after the onset of the osteomyelitis. At our first examination, nearly a year later, it was found that most of the anterior table of the right frontal bone and the medial portion of the left frontal bone had been lost, and there was a marked deformity and loss of the right supraorbital rim.

The operative procedure was performed after proper studies, including a neurosurgical consultation. An incision was made through the scalp, extending across the right eyebrow and the medial portion of the left eyebrow. The scalp was separated with difficulty from the osteomyelitic bone (the posterior table of the frontal bone) and a previously constructed tantalum plate was inserted. The plate was fixed in place by a tantalum wire laterally and a small tantalum triangular flange medially. The deformity was thereby reduced and the cranial contents were protected. Postoperative procedures taken six months after surgery show the present appearance.

4:00 p.m.

Marginal Corneal Infiltrates and Ulcers

LT. COL. PHILLIPS THYGESON (MC)
Menlo Park, Calif.

Discussers:

C. L. SCHEPENS, M.D.
Brussels, Belgium

BY INVITATION
JAMES H. ALLEN, M.D.
Iowa City, Iowa

The present study concerns the etiology, prophylaxis, and treatment of marginal corneal infiltrates and ulcers as observed in a series of 200 cases. Simple catarrhal marginal infiltration and ulceration is the most common type of corneal disease. Although usually benign, severe recurrent lesions may cause disability and permanent diminution in vision due to

cicatrization extending into the pupillary area. There are also two distinct clinical entities which always involve the margin of the cornea. These are (1) chronic serpiginous ulcer (Mooren), and (2) ring infiltrates and ulcers.

Simple marginal ulcers were found to be due to pathogenic staphylococci, diplobacilli, beta hemolytic streptococci, Koch-Weeks bacilli, and the allergies characteristic of vernal catarrh, phlyctenulosis, and drug sensitivity. Pathogenic staphylococci were by far the most frequent cause. The keratitis was in all cases secondary to conjunctival, and occasionally also to lid margin, involvement. Age appeared to be a predisposing factor, most cases not phlyctenular in origin occurring in the advanced age groups. There was no evidence to indicate that vitamin A or B complex deficiency was a significant factor.

A special study of marginal ulcers occurring in acne rosacea revealed the presence of pathogenic staphylococci in every instance. Riboflavin deficiency could not be proved to be a factor. It was concluded that the keratitis in acne rosacea is, in large part at least, staphylococcic in origin.

Therapeutic studies indicated that local treatment of catarrhal ulcers was less important than treatment of the associated conjunctivitis. Penicillin and the sulfonamides were the most useful therapeutic agents.

Ring infiltrates and ulcers appeared to be largely endogenous in origin. They were seen in connection with gonorrhea, erythema multiforme, bacillary dysentery, and influenza. One ring infiltrate occurred after a pterygium operation and responded well to penicillin, suggesting a local exogenous cause. In one case multiple staphylococcic marginal ulcers coalesced to form a ring ulcer.

Mooren's ulcer occurred in only 5 cases. These were subjected to exhaustive etiologic studies including searches for bacteria, viruses, fungi, and parasites. No relationship to any systemic disease was noted. Sulfonamide therapy was ineffectual but apparent arrest of progress was obtained in 3 cases by delimiting keratotomy and repeated paracentesis.

4:40 p.m.

A Method of Closing the Senile Cataract Incision by Combining a Corneoscleral Suture and a Large Sliding Conjunctival Flap

(A Motion Picture)

PHILIP HAROLD DECKER, M.D.
Williamsport, Pa.

In closing a senile cataract incision two elements enter into the mechanism of a successful closure.

First:

Securing adequate primary STRENGTH of closure. This is best obtained by a well placed corneoscleral suture.

Second:

Securing adequate primary SEALING effect of the incision line in order to rapidly reestablish and securely maintain the reformation of the anterior chamber. This SEALING effect is best obtained by using a large sliding conjunctival flap from above which temporarily buries both the corneoscleral suture and the entire limbus incision line.

4:50 p.m.

The Marcus-Gunn Jaw Winking Phenomenon

(A Motion Picture)

EDMOND L. COOPER, M.D.
Detroit, Mich.

This film is prepared to illustrate the clinical appearance of two patients who exhibit the Jaw Winking Phenomenon.

In the first case, the ptosis is seen to be partial and there is no marked cosmetic defect. The ocular movements are normal and the patient can elevate the upper lid voluntarily showing no paresis of the levator muscle. When the lower jaw is depressed the drooping right eyelid is elevated markedly and when the jaw is moved to the left (action of the left external pterygoid muscle) the elevation of the lid increases.

In the second case, an infant, sucking motions of the mouth cause the lid elevation characteristic of the phenomenon.

5:00 p.m.

Demonstration of New Instruments

Members having new instruments, drugs and methods for demonstration will please contact the Secretary in charge of the meeting.

Section on Otolaryngology

THURSDAY, OCTOBER 17, 1946

9:00 a.m.

GRAND BALL ROOM

Presiding Officer:
W. H. JOHNSTON, M.D.
Second Vice President

Secretary:
O. E. VAN ALYEA, M.D.

The Mesopharynx in Diagnosis
W. BURBANK WOODSON, M.D.
Temple, Texas

Discussers:
ARTHUR W. PROETZ, M.D.
St. Louis, Mo.
THOMAS E. CARMODY, M.D.
Denver, Colorado

Following in method the ophthalmologist's evaluation of the findings of the fundus of the eye-ground, it is the author's intention to present an evaluation of some of the findings of the mesopharynx with their corresponding diagnostic implications. The anatomy and embryology of the mesopharynx will be abstracted. Two important anomalies will be described. The diagnostic value of large pharyngeal pillars will be indicated. Follicular pharyngitis will be reviewed. The possibility of the rapid elimination of infection in the sinus and upper respiratory tract in the presence of normal mucosa of the mesopharynx will be shown. In the absence of other signs and symptoms certain of these cases will be grouped under the convenient term of "mesopharyngitis symptomatica." The term "mesopharyngitis proliferans" will be suggested to cover certain other signs associated by the author in a diagnostic group. Thirty-one lantern slide illustrations will be presented.

9:40 a.m.

Diseases of the Esophagus
(A Motion Picture)
PAUL H. HOLINGER, M.D.
ALBERT H. ANDREWS, M.D.
Chicago, Ill.

This film correlates the esophagoscopic views of various types of esophageal lesions with their clinical and x-ray findings. Strictures of the esophagus, cardiospasm, diverticula, and tumors are illustrated. The technic of esophagoscopy is shown.

10:10 a.m.

Some Interesting Observations Concerning Deafness of Psychic Origin and Its Response to Narcosynthesis
HERMAN SEMENOV, M.D.
San Francisco, Calif.

Discussers:
GORDON D. HOOPLE, M.D.
Syracuse, N. Y.
EDWARD H. TRUEX, JR., M.D.
Hartford, Conn.

Functional deafness was detected in 12 per cent of the cases admitted to an Army hospital for the rehabilitation of the deafened. This disorder was suspected when inconsistent otological findings appeared, or repeated hearing tests and audiograms showed unusual variations in a very deaf individual. The diagnosis was established in case after case, after a dramatic restoration of hearing had been obtained through the use of pentothal narcosynthesis. The majority of cases were due to a central suppression of the perception of sound, air and bone conduction. In psychoneurotic individuals, a pre-existing ear disease, or acoustic trauma and a blast injury, may lead to a conversion hysteria. The functional overlay disappeared after narcosynthesis and the true nature of the deafness could then be appraised. Experience with a large number of such cases has led to the conclusion that psychogenic deafness is not a rare condition, that it is a perceptive type of deafness, that it is a bilateral deafness in most instances, that it responds to treatment, that it may persist when neglected, and that there is more truth than poetry in the proverb, "there are none so deaf as those who will not hear."

10:50 a.m.

The Use of the Sickle Flap for Reconstruction of the Upper Lip
(A Motion Picture)
GORDON B. NEW, M.D.
Rochester, Minn.

The sickle flap has been used for reconstruction of partial and total defects of the nose. This movie illustrates its use in the reconstruction of two-thirds of the upper lip. The reconstructed portion is 6 cm. in length. The skin graft in the forehead just at the left of the midline is only 2½ cm. in size, showing how the flap can be stretched at the time of its replacement.

11:05 a.m.

Changes in Nasal Function Associated with Varying Emotional States and Life Situations

THOMAS H. HOLMES
HELEN GOODELL
STEWART WOLF, M.D.
HAROLD G. WOLFF, M.D.
New York Hospital and the Departments of Medicine and Psychiatry of the Cornell University Medical College, New York, N. Y.

BY INVITATION

Discussers:

EDMUND P. FOWLER, JR., M.D.
New York, N. Y.

WILLIAM C. WARREN, JR., M.D.
Atlanta, Ga.

Functional alterations in the structures in the nose of man have been studied and correlated with a wide variety of circumstances including noxious stimulation inside the nose by chemical agents, noxious stimulation of other portions of the head, variations in environmental temperature, interruption of afferent nerve pathways, weeping and numerous threatening life situations with their accompanying affective states.

In general two patterns of disturbance of nasal function were recognized. The first involved vasoconstriction in the nose with shrinkage of the membrane and increase in the size of the air passages. Such changes in reaction to threats accompanied feelings of fear, sadness and other emotions which, although strong, involved minimal conflict. The second type of disturbance in the nose was characterized by the initial hyperemia associated with turgescence of the erectile tissues in the turbinates and nasal septum, engorgement of the nasal mucosa and increased secretion. These changes were accompanied by obstruction to breathing. Often, after the subsidence of hyperemia, secondary pallor ensued with the mucus membranes of the nose remaining boggy and edematous. The appearance of the nose under these circumstances resembled that of vasomotor rhinitis. In fact, it was demonstrated in an attack of hay fever which was observed from its onset that the initial changes following inhalation of pollen involved intense hyperemia of the mucus membrane covering the septum and turbinates with broad dilitation of the superficial vessels creating a prominent red network. Hypersecretion, swelling and obstruction quickly followed. Later the hyperemia subsided leaving the membranes pale but still swollen and edematous looking.

As previously observed in the skin, stomach and bladder, turgidity and hyperemia of the mucus membranes of the nose often brought about a lowering of the pain threshold.

This type of disturbance in the nose characterized by hyperemia, hypersecretion, swelling and obstruction, occurred in reaction to local noxious stimulation as well as to other threats including significant conflict with resultant anxiety, resentment, anger, hostility, guilt, and feelings of frustration. Against local intrusion by dust, for example, or noxious fumes, the reaction of shutting out and washing away proved highly effective. Against situational threats invoiving interpersonal relations, however, the nasal changes afforded incomplete relief and were often productive of discomfort.

There appears to be some broad biological significance to this reaction of shutting out and washing away of the head end of the organism. During weeping, not only the nose but also the eyes were found to precipitate in this reaction and in two individuals in this study, deeper structures including the bronchiae constricted during threatening situations thus participating in the bodily reaction of exclusion.

When the nasal changes in the bodily pattern of shutting out and washing away were unduly sustained they gave rise to troublesome symptoms including pain, and, especially when coupled with infection, to chronic nasal disease.

Section on Ophthalmology

THURSDAY, OCT. 17, 1946

2:00 p.m.

Presiding Officer:
BRITTAIN F. PAYNE, M.D.
Third Vice President

Secretary:
ALGERNON B. REESE, M.D.

Nonperforating Ocular Injuries in Soldiers

BENJAMIN RONES, M.D.
Washington, D. C.
HELENOR CAMPBELL WILDER
Washington, D. C.

BY INVITATION

Discussers:

W. J. B. RIDDELL, M.D.
Glasgow, Scotland

BY INVITATION

ROBERT S. IRVINE, M.D.
San Francisco, Calif.

The material was received by the Army Institute of Pathology and consists of 104 nonperforating ocular injuries in soldiers. In 47 cases the injuries were incurred during combat or training, while in 57 the contusions had been sustained before entering the service. The cases have been studied by subdividing them according to the time elapsing between injury and enucleation.

Three eyes were enucleated on the day of injury, and in these the dominant finding was fresh hemorrhage. In two, incipient cataract was identified in less than 24 hours following injury.

There were nine eyes removed within two weeks of injury. Inflammation was present in five eyes. Secondary glaucoma resulting from the massive intraocular hemorrhage had occurred in four eyes.

Fifteen eyes were enucleated between two weeks and three months after injury, and in them the organization of hemorrhage was more advanced, the incidence of chronic inflammation had increased, and early atrophic changes were seen.

In 20 eyes enucleated between three months and two and one-half years after injury, the incidence of inflammation and secondary glaucoma was further increased, and there was one instance of equatorial staphyloma. Inflammatory pupillary and cyclitic membranes were seen and, for the first time, calcium deposits in the lens and phthisis bulbi were observed.

In the 57 eyes with pre-induction injuries, chronic endophthalmitis was the most frequent pathologic finding, with cataract, detachment of the retina and choroid, and secondary glaucoma following in that order. A great variety of degenerative and late inflammatory changes were recorded.

The eyes of greatest interest in this series were the 20 which had inflammatory reactions of various types, but in which there had been no operative procedures to complicate the reaction. Purulent endophthalmitis was encountered twice. A granulomatous inflammatory reaction was seen only once. One case showed a subacute endophthalmitis with a marked cellular reaction, which was regarded as a response to infection. In the remaining 16 cases the inflammatory response was definitely a reaction to tissue trauma and subsequent hemorrhage. Here the exudative response was more marked than the cellular.

2:40 p.m.

A New Type Orbital Implant
(A Motion Picture)

NORMAN L. CUTLER, M.D.
Wilmington, Del.

This implant is composed of a plastic sphere with a gold ring for muscle attachment and a gold face plate into which a metal pin on the prosthesis fits. This latter gives a positive mechanical contact between the prosthesis and the implant. An average movement of 70° horizontal and 65° vertical of the prosthesis is obtained. Postoperative results are shown.

3:00 p.m.

Full Eye Implant
(A Motion Picture)

A. D. RUEDEMANN, M.D.
Cleveland, Ohio

A successful method for implanting an eye into the socket, in over 50 patients, using acrylic plastic for the implant and tantalum wire and tantalum plates for attaching the muscles to the globes. Extrusions of the globe or infections of the socket are not complications. Mechanical failure of proper attachment and failure of the dyes have been the only difficulties to date.

3:15 p.m.

Intrascleral Implant: A New Technic
(A Motion Picture)

C. S. O'BRIEN, M.D.
Iowa City, Iowa

This film shows a new method for making a plastic implant into the sclera to which a special prosthesis is attached. This method results in better movement of the prosthesis and in an improved appearance.

3:35 p.m.

A Study of the Anatomical Variations in the Bulbar Attachments of the Oblique Muscles
WALTER H. FINK, M.D.
Minneapolis, Minn.

Discussers:
F. BRUCE FRALICK, M.D.
Ann Arbor, Mich.
RAYNOLD N. BERKE, M.D.
Hackensack, N. J.

The work is based upon the dissection of 100 orbits. Exact measurements were made of the attachment to the eyeball of the superior and inferior oblique muscles. This data is analyzed and conclusions arrived at as to what may be considered an average type of attachment. Measurements were also taken showing the relationship of the oblique muscles to their respective adjacent rectus muscle. Various anomalies are described.

The work serves to augment the rather meager knowledge on this specific subject.

That it may prove of clinical value seems possible when we consider that an exact surgical approach to the obliques has not been fully determined. The anatomical variations may well explain some of the muscular disorders hitherto attributed to other causes such as paralysis, etc.

4:15 p.m.

Cataract Surgery
(A Motion Picture)
RAMON CASTROVIEJO, M.D.
New York, N. Y.

This film shows some technics of cataract surgery: Paresis of the orbicularis, retrobulbar injection and peripheral iridectomy; incision with keratome and scissors, corneoscleral sutures; extracapsular cataract extraction; intracapsular with forceps; intracapsular by suction; intracapsular with loop for subluxated lens; extraction of cataract through temporal incision and extraction through incision at the lower limbus to preserve filtering scars in eyes previously operated for glaucoma; discission of secondary cataract; iridocapsulotomy for occluded pupil after cataract extraction; needling of congenital cataract; irrigation of cataractous masses after discission and lineal extraction.

4:35 p.m.

Operation for Detachment of the Retina
(A Motion Picture)
DOHRMANN K. PISCHEL, M.D.
San Francisco, Calif.

The film shows the technic employed by the author for the treatment of retinal detachment. It includes his method of localizing the hole, of viewing the operative site with the ophthalmoscope during the operation, and of applying the diathermy treatments.

Section on Otolaryngology and Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

FRIDAY, OCTOBER 18, 1946
9:00 a.m.

GRAND BALL ROOM

Presiding Officer:
GORDON B. NEW, M.D.
President

Secretaries in Charge:
Congress: CHEVALIER L. JACKSON, M.D.
Academy: O. E. VAN ALYEA, M.D.

Conservative Surgery of Cancer of the Larynx
DR. JUSTO M. ALONSO
Montevideo, Uruguay

Laryngeal Cancer and Lymphatic Metastasis
DR. JAIME DEL SEL
Buenos Aires, Argentina

Discussers:
GORDON B. NEW, M.D.
Rochester, Minn.
DR. PLINIO BARRETTO
Sao Paulo, Brasil

The Application of Local Pressure to the Mucosa of the Maxillary Sinus
J. M. ROBISON, M.D.
Houston, Texas

Discussers:

FLETCHER D. WOODWARD, M.D.
Charlottesville, Va.

JOHN J. SHEA, M.D.
Memphis, Tenn.

DR. DOUGLAS W. SIBBALD
Buenos Aires, Argentina

The fundamental physiology and functional pathology of the mucosa of the maxillary sinus will be discussed. Alterations of these processes produced by infection and allergens which terminate in structural changes in the mucosa will be considered and compared. The application of local pressure to the mucosa of the maxillary sinus by means of balloons inflated with iodized oil will be described with the indications for, and results of, this type of treatment.

Surgery of the Hypophysis and the Treatment of Retrobulbar Neuritis

DR. ELISEO V. SEGURA
Buenos Aires, Argentina

Discussers:

DR. JOAO MARIANHO
Rio de Janeiro, Brazil

W. L. BENEDICT, M.D.
Rochester, Minn.

Hyposensitization Therapy in Chronic Sinus Disease

REA E. ASHLEY, M.D.
San Francisco, Calif.

Discussers:

FRENCH K. HANSEL, M.D.
St. Louis, Mo.

HENRY L. WILLIAMS, M.D.
Rochester, Minn.

DR. ABELARDO IRIGOYEN FREYRE
Santa Fe, Argentina

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1. Changing views regarding etiology of chronic sinusitis.
2. Importance of allergy as an etiological factor.
3. Present theories regarding allergic sensitivity.
4. Present theories regarding so-called desensitization.
5. Important for rhinologist to diagnose and treat own allergic patients.
6. Methods of diagnosis, including complete allergic history, symptoms, cytology and skin tests, examination of nasal mucosa.
7. Methods of treatment:
   (a) Elimination of the causative allergen.
   (b) Administration of drugs.
   (c) Desensitization:
      (1) House dust plus molds and fungi, most common inhalents causing nasal allergy.
      (2) Small dosage by injection is most important factor in obtaining results.
      (3) How to arrive at the proper dosage.
      (4) Time between doses.
      (5) When to stop treatment.
8. Evaluation of results following low dosage therapy.

Advantages in Not Tamponing After Submucous Resection: Personal Technic

DR. ROGER A. LANZA CASTELLI
Cordoba, Argentina

Discussers:

DR. WALTER REINKING
Mexico City, Mexico

H. C. BALLENGER, M.D.
Winnetka, Ill.

An Acrylic Obturator Employed in the Repair of an Obstructed Frontonasal Duct

JOHN B. ERICH, M.D.
Section on Laryngology, Oral and Plastic Surgery, Mayo Clinic, Rochester, Minn.

Discusser:

GORDON B. NEW, M.D.
Rochester, Minn.

In this paper is discussed a method of maintaining the patency of an artificially created frontonasal duct in patients with an occluded infundibulum. An acrylic obturator is employed for this purpose. If properly constructed and worn for a sufficient length of time, it will avert the development of a stenosis in the artificially created passage from the frontal sinus to the nasal cavity.

Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

FRIDAY, OCTOBER 18, 1946

2:00 p.m.
GRAND BALL ROOM

Presiding Officer:
GORDON B. NEW, M.D.
President

Secretary in Charge:
CHEVALIER L. JACKSON, M.D.

SECTION ON OTOLOGY

A Contribution to the Study of the Surgical Problems of Otosclerosis
DR. JUAN M. TATO
Buenos Aires, Argentina

My Experience with the Lempert Operation
DR. JOSE KOS
Rio de Janeiro, Brazil

An Evaluation of the Fenestration Operation for Otosclerosis
GEORGE E. SHAMBAUGH, JR., M.D.
Chicago, Ill.

Irrigation of the Skin of the External Ear, Middle Ear and Tympanic Membrane: Its Importance in the Surgery of This Region
DR. ALDO G. REMORINO
and
DR. OSVALDO SUAREZ
Cordoba, Argentina

Iontophoresis with Sulfadiazine and Penicillin in the Treatment of Furuncles of the Ear
DR. LUIS M. NIN RECAYTE
Montevideo, Uruguay

The Medical Treatment of Chronic Purulent Otitis Media
DR. PEDRO HERNANDEZ GONZALO
Habana, Cuba

Proteinemia in Otorhinolaryngology
DR. RICARDO BOMPET
and
DR. RAFAEL QUESADA
Buenos Aires, Argentina

My Experience of One Year in the New Service of Otolaryngology and Broncho-Esophagology in the Hospital Luis Vernaza of Guayaquil
DR. FERNANDO LOPEZ LARA
Guayaquil, Ecuador

Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

SATURDAY, OCTOBER 19, 1946

9:00 a.m.
CRYSTAL ROOM

Presiding Officer:
GORDON B. NEW, M.D.
President

Secretary in Charge:
CHEVALIER L. JACKSON, M.D.

Postgraduate Education in Otolaryngology
DEAN M. LIERLE, M.D.
Iowa City, Iowa
Discusser:
DR. JUAN M. TATO
Buenos Aires, Argentina

SECTION ON RHINOLOGY

The Correction of Nasal Deformities
DR. REINALDO DE VILLIERS
Habana, Cuba

Vitamin B_1 in Hay Fever
DR. ABELARDO IRIGOYEN FREYRE
and
DR. MARCOS ZADUNAISKY
Santa Fe, Argentina

Nasal Leprosy
DR. PEDRO BERRUECOS TELLEZ
Mexico City, Mexico

The Operative Treatment of Fetid Atrophic Rhinitis
DR. HORACIO POLANCO RODRIGUEZ
Guatemala City, Guatamala

The Treatment of Chronic Maxillary Sinusitis by Aspiration
DR. RAUL LITMANOVICH
Rosario, Argentina

The Unilateral Approach to Both Frontal Sinuses with Single Midline Drainage
DR. JUAN M. TATO
Buenos Aires, Argentina

A Generation of Progress in Rhinology
ARTHUR W. PROETZ, M.D.
St. Louis, Mo.

SYMPOSIUM ON SCLEROMA

Scleroma in Mexico: Considerations of the State of Nutrition as an Etiologic Factor
DR. JUAN ANDRADE PRADILLO
and
DR. SALVADOR ZUBIRAN
Mexico City, Mexico

Clinical Aspects of Scleroma
DR. JOSE SANCHEZ CORTES
Guadalajara, Mexico

Histopathology of Scleroma of the Upper Respiratory Passages
DR. ROBERTO MENDIOLA
Guadalajara, Mexico

The X-ray Treatment of Rhinoscleroma (by title)
DR. LUIS VARGAS
and
DR. GUILLERMO MONTANO
Mexico City, Mexico

Pan-American Congress of Oto-Rhino-Laryngology and Broncho-Esophagology

SATURDAY, OCTOBER 19, 1946

2:00 p.m.

CRYSTAL ROOM

Presiding Officer:
GORDON B. NEW, M.D.
President

Secretary in Charge:
CHEVALIER L. JACKSON, M.D.

SECTION ON BRONCHO-ESOPHAGOLOGY
SYMPOSIUM ON TUBERCULOSIS

Tracheo-Broncho - Pulmonary Tuberculosis: An Anatomical and Clinical Study
DR. LUIS SAYE
Buenos Aires, Argentina

Bronchial Tuberculosis
DR. JOSE G. ARRAZURIA
Habana, Cuba

Our Experience with the Endoscopic Treatment of the Tension and Irreducible Types of Tubercular Cavity
DR. ROGER A. LANZA CASTELLI
Cordoba, Argentina

Bronchoscopic Aspects of Pulmonary Tuberculosis: the Necessity for an Endoscopic Clinical Classification
DR. MANUEL LOPEZ Y LOPEZ
Mexico City, Mexico

SYMPOSIUM ON THE ESOPHAGUS

Mediastinitis Following Perforation of the Esophagus by Foreign Bodies
DR. ANTONIO E. CARRASCOSA
and
DR. ANTONIO R. ZAMBRINI
Buenos Aires, Argentina

The Treatment of Cicatricial Stenosis of the Esophagus
DR. PLINIO DE MATTOS BARRETTO
Sao Paulo, Brazil

A New Means of Facilitating Radiologic Exploration of the Esophago-Gastric Segment
DR. VALMORE LATRAVERSE
Montreal, Canada

Anomalies of the Esophagus
DR. MANUEL GONZALEZ LOZA
Rosario, Argentina

Acute Laryngo-Tracheo-Bronchitis
DR. EDUARDO ECHEVERRIA
Mexico City, Mexico

Personal Impressions of the Endoscopic Treatment of Asthma
DR. JOSE AMERISO
Rosario, Argentina

Bedside Bronchoscopy
(A Motion Picture)
DR. VALMORE LATRAVERSE
Montreal, Canada

Endoscopic Photography of the Ear, Nose, Larynx, Bronchi and Esophagus
(A Motion Picture)
PAUL H. HOLINGER, M.D.
Chicago, Ill.

TO BE READ BY TITLE

General Anesthesia for Tonsillectomy and Adenoidectomy
Dr. Jose Ameriso, Rosario, Argentina

The Surgical Treatment of Pansinusitis: Ermiro de Lima's Operation: Our Experience
Dr. Emilio O. Bergaglio and Dr. Vicente A. Carri, Buenos Aires, Argentina

The Physiochemistry of Nasal Therapeusis

Dr. Ricardo Bompet and Dr. Rafael Quesada, Buenos Aires, Argentina

Dermoid Cysts of the Larynx

Dr. Manuel Gonzales Loza, Rosario, Argentina

Nose Fractures Treated with the Rhinotractor

Dr. Mario Gonzalez Ulloa, Mexico City, Mexico

Bronchoscopy in Asthma — The Use of Nebulizations of Novocaine and Adrenalin in Asthmatic Attacks

Dr. Abelardo Irigoyen Freyre and Dr. Marcos Zadunaisky, Santa Fe, Argentina

The X-ray Treatment of Rhinoscleroma

Dr. Guillermo Montano and Dr. Luis Vargas, Mexico City, Mexico

Investigation of the pH of the Tracheo-Bronchial Mucosa

Dr. Aldo G. Remorino, Cordoba, Argentina

Tonsillar Cancer—Synopsis of Laryngectomy

Dr. Leonardo Silva, Mexico City, Mexico

Ludwig's Angina: A Surgical Approach Based on Anatomical and Pathological Criteria

Dr. Kurt Tschiassny, Cincinnati, Ohio

Surgical Treatment of Frontal Sinusitis and Its Complications

Dr. Raul David de Sanson, Rio de Janeiro, Brazil

Osteoplastic Operation on the Large Frontal Sinus in Chronic Suppurative Sinusitis: End Results

Dr. Raul Bergara, Buenos Aires, Argentina

SECTION ON INSTRUCTION

Officers

DEAN M. LIERLE, M.D.
Secretary for Instruction — Otolaryngology

A. D. RUEDEMANN, M.D.
Secretary for Instruction — Ophthalmology

THIS SECTION PRESENTS FOR 1946:

1. Seventy-seven individual and twenty-six continuous ophthalmologic courses with a faculty of one hundred and twenty-four instructors covering two hundred and eighty-two hours.
2. Seventy-five individual and fifteen continuous otolaryngologic courses with a faculty of eighty-eight instructors and covering two hundred and eighty-one hours.

Note

Due to the termination of the war and the fact that there has not been a meeting for two years, the Secretaries for Instruction are contemplating the largest attendance in the history of the Academy. Consequently, it was necessary to formulate a plan to provide more instructional courses. The Program Committee has departed from the usual custom of having a mixed eye, and ear, nose and throat instructional program during the mornings. This year it was decided to have the instructional courses in ophthalmology during the mornings on Tuesday, Wednesday, Thursday and Friday. The scientific section in ophthalmology will be held on Monday, Tuesday, Wednesday and Thursday afternoons. The instructional courses in otolaryngology will occur on Monday, Tuesday, Wednesday and Thursday afternoons and the scientific sessions will be on Tuesday, Wednesday, Thursday and Friday mornings. The moving picture programs will be combined with the scientific sessions. The advantages of separating the ophthalomologic and otolaryngologic instructional programs are obvious. It will be possible for each individual to take more courses; there are a larger number of courses from which to choose; and it helps to conserve space as far as instructional rooms are concerned, which is an important factor this year. The one disadvantage is that those taking the instructional courses for the entire morning or afternoon will have to miss the scientific and moving picture programs of the other specialty.

The first instructional periods begin at 9:00 a.m. and 2:00 p.m. and it is urged that each one be in his seat at least ten minutes before the conference starts. There will be only a 15 minute intermission between courses. The attendants at the doors are instructed not to admit anyone to the instructional courses without a ticket. This is necessary because the seating capacity is limited and only a definite number of tickets can be sold for each course. In the event of loss of a ticket, please report to Room 701 at the Palmer House.

Advance ordering of instruction course tickets will permit a better choice of courses and will eliminate considerable confusion during the registration.

The Secretaries for Instruction would appreciate suggestions regarding subjects for courses and instructors and any criticisms which will be of value in improving the courses.

General Instructions

Members only who have paid their 1946 *dues may make reservations in advance of the meeting.* After the session opens no preference will be given to members that is not extended to candidates and guests.

Selection of Courses

($1.50 for each period of instruction)

SEVENTH FLOOR — PALMER HOUSE

The periods will be designated with the following key: Select tickets for— Ophthalmology, forenoons, periods 1-2-3 — Otolaryngology, afternoons, periods 4-5-6

Day	(M)onday	(T)uesday	(W)ednesday	(Th)ursday	(F)riday
Period a.m.		1 2 3	1 2 3	1 2 3	1 2 3
Period p.m.	4 5 6	4 5 6	4 5 6	4 5 6	

M-4	2:00 p.m. to 3:00 p.m.	W-5	3:15 p.m. to 4:15 p.m.
M-5	3:15 p.m. to 4:15 p.m.	W-6	4:30 p.m. to 5:30 p.m.
M-6	4:30 p.m. to 5:30 p.m.	Th.-1	9:00 a.m. to 10:00 a.m.
T-1	9:00 a.m. to 10:00 a.m.	Th.-2	10:15 a.m. to 11:15 a.m.
T-2	10:15 a.m. to 11:15 a.m.	Th.-3	11:30 a.m. to 12:30 p.m.
T-3	11:30 a.m. to 12:30 p.m.	Th.-4	2:00 p.m. to 3:00 p.m.
T-4	2:00 p.m. to 3:00 p.m.	Th.-5	3:15 p.m. to 4:15 p.m.
T-5	3:15 p.m. to 4:15 p.m.	Th.-6	4:30 p.m. to 5:30 p.m.
T-6	4:30 p.m. to 5:30 p.m.	F-1	9:00 a.m. to 10:00 a.m.
W-1	9:00 a.m. to 10:00 a.m.	F-2	10:15 a.m. to 11:15 a.m.
W-2	10:15 a.m. to 11:15 a.m.	F-3	11:30 a.m. to 12:30 p.m.
W-3	11:30 a.m. to 12:30 p.m.		
W-4	2:00 p.m. to 3:00 p.m.		

(Familiarity with this key will be helpful and will avoid confusion)

Orders unaccompanied by properly executed checks will not be filled.

Refunds will be granted only if request for reimbursement is received prior to October 5.

1946 Academy candidates *whose names appear in this issue of the* TRANSACTIONS are exempt from paying registration fee; however, even they are not privileged to reserve tickets in advance of October 13.

Candidates *whose names do not appear in this* TRANSACTIONS and guests will be required to pay a registration fee of five dollars ($5.00).

All orders for tickets will be filled according to postmark on envelope. Previous to October 1, send orders to 100 First Avenue Building, Rochester, Minnesota; after October 1, mail orders direct to Dr. William L. Benedict, c/o Palmer House, Chicago, Illinois.

Requesting Conference Tickets

At the end of this section is printed a colored sheet to be used when ordering tickets in advance. Specify preferences on this sheet and mail to the executive office. Careful following of instructions will insure the correct filling of your requests. *Since courses are limited in number it is necessary that you select more courses than it is possible for you to attend; in other words, a list of three preferences for each period selected should be given.* Please note carefully that where continuous courses are selected the additional periods open in your schedule are varied.

If you are requesting registration in the continuous courses, please specify preferences for individual conferences as substitutes in order to avoid disappointment should the continuous courses which you select be sold out when your order is received.

Claiming Conference Tickets

There will be an *Advance Order Registration Section* where members who have sent advance orders will register and secure conference tickets.

Please Note: Only members in good standing will be accommodated in this way. Members delinquent in dues must make selection of courses in Chicago.

PROGRAM OF COURSES

Continuous Courses
OPHTHALMOLOGY
1946

COURSE 1

Room 754 **Periods T-2; T-3; W-2; W-3; Th.-2; Th.-3**

FRANCIS HEED ADLER, M.D.
Philadelphia, Pa.

IRVING H. LEOPOLD, M.D.
Philadelphia, Pa.

The Patho-Physiology of Ocular Movements
A six period course — $9.00

Limited to 40

Consideration will be given to the pathways and centers for the various types of reflex and willed ocular movements. Attention will be directed to the many physiological factors that influence the ocular muscles in fixation, in disjunctive and conjugate movements, in binocular single vision and in nystagmus. An attempt will be made to correlate the various types of squint with alterations in the discussed physiologic mechanisms.

COURSE 2

Room 752 **Periods T-1; W-1; Th.-1; F-1**

ARTHUR J. BEDELL, M.D.
Albany, N. Y.

Medical Ophthalmoscopy
A four period course—$6.00

Limited to 40

Fundus changes found in constitutional diseases; their significance in diagnosis, prognosis and treatment.

Cases will be illustrated with kodachrome photographs. The common alterations as well as the rare ones will be presented.

COURSE 3

Room 722 **Periods T-1; W-1; F-1**

RAMON CASTROVIEJO, M.D.
New York, N. Y.

Corneal Surgery
A three period course — $4.50

Limited to 40

The following topics will be discussed, illustrated with colored photographs and moving pictures: Wounds of the cornea, nonpenetrating and penetrating. Foreign Bodies. Burns, immediate treatment, treatment of sequela. Corneal ulcers. Keratectomies. Keratoplasties. Tattoo-ings. Operations for conical cornea. Operations for Staphyloma of the cornea. Conjunctival keratoplasty and other plastic operations for recurrent pterygium, pseudopterygium and symblepharon.

COURSE 4

Room 705 **Periods T-1; T-2**

FREDERICK C. CORDES, M.D.
San Francisco, Calif.

Cataract Types
A two period course — $3.00

Limited to 35

COURSE 5

Room 705 **Periods W-1; W-2**

FREDERICK C. CORDES, M.D.
San Francisco, Calif.

Cataract Types
A two period course — $3.00

Limited to 35

Dr. Cordes' two hour course "Cataract Types" is being presented twice as Course 4 and Course 5. **Please select course number according to day on which you wish to attend.**

The various types of cataract will be defined. There will be a brief presentation of the embryology of the lens, together with a discussion of the various types of congenital cataracts with special emphasis on the types seen in German measles. In addition the senile cataract,

diabetic cataract, those following disturbance of the endocrine system, those resulting from poisons, complicated cataracts, heterochromia cataract and those resulting from cachexia will be considered. The various types of traumatic and radiation cataracts will also be described. Kodachrome slides will be used.

COURSE 6

Room 736 Periods T-3; W-3; Th.-3

JOHN H. DUNNINGTON, M.D.
New York, N. Y.

Surgery of the Eyelids and Orbit
A three period course — $4.50

Limited to 40

An informal discussion of the surgical treatment of cataract, glaucoma and detachment of the retina. Emphasis will be placed upon the prophylactic measures used in an endeavor to minimize the frequency of complications. Consideration will also be given to the management of some of the more common ones.

COURSE 7

Room 724 Periods T-1; T-2

HAROLD F. FALLS, M.D.
Ann Arbor, Mich.
CHARLES W. COTTERMAN, Ph.D.
Ann Arbor, Mich.

BY INVITATION

Heredity in Ophthalmology
A two period course — $3.00

Limited to 25

An introduction to the genetics of common hereditary ocular anomalies. Primary principles of heredity will be briefly discussed and demonstrated. Illustrations and slides of the ocular dyscrasias will accompany the didactic subject material. An outline of information requisite to accurate prognostication of the inheritance pattern of numerous ocular defects will be presented.

COURSE 8

Room 710 Periods T-1; T-2; W-1; W-2

BRUCE FRALICK, M.D.
Ann Arbor, Mich.
ELIZABETH CROSBY, M.D.
Ann Arbor, Mich.

BY INVITATION

Anatomy of the Orbit
A four period course — $6.00

Limited to 40

Understanding the anatomy of the eye is a great help to any ophthalmic surgeon in performing the various surgical procedures on the globe and adnexa. It familiarizes one with normal relationships, thereby giving confidence when conducting corrective operations in complicated cases. A knowledge of anatomy also includes an understanding of the variations from the normal and the effect these variations play on the functioning of the part. This aids the surgeon in encountering anomalous relationships.

A brief description will be given of the anatomical characteristics of the bony orbit and its contents, the eyelids, the lacrimal apparatus and nervous pathways to illustrate the various surgical problems which each tissue presents to the ophthalmic surgeon. Practical illustrations will be used throughout in an attempt to demonstrate the value of a thorough knowledge of applied ophthalmic anatomy if one is to get the highest percentage of good surgical results.

COURSE 9

Room 733 Periods Th.-1; Th.-2

JONAS FRIEDENWALD, M.D.
Baltimore, Maryland

Mechanism in Formation of Aqueous
A two period course — $3.00

Limited to 35

The work on the mechanism of formation of the intraocular fluid that has been done during the last ten years will be summarized and discussed. Students who wish to attend this course are expected to have read the following references:

The Circulation of the Aqueous. VII. A Mechanism of Secretion of the Intraocular Fluid. Arch. of Ophth. Nov. 1938, 20, 761-786.

Role of Ascorbic Acid (Vitamin C) in Secretion of Intraocular Fluid.
Arch of Ophth. 29, 535-570, April 1943.

The Role of Epinephrine in the Formation of the Intraocular Fluid.
Amer. J. of Ophth. V. 24, No. 10, Oct 1941.

Dynamic Factors on the Formation and Reabsorption of Aqueous Humor.
Brit. J. Ophth. Oct. 1944.
Duke-Elder and Davson, Brit. J. Ophth. V. XXVII. p. 431, 1943.
Duke-Elder, Quillian and Davson, Brit. J. Ophth. V. XXIV, p. 421, 1940.
Duke-Elder, W. S. Brit. J. Ophth. V. X. p. 513, 1926.
Kinsey, Grant and Cogan. Arch. of Ophth. V. XXVII, p. 242, 1942.
Kinsey, Grant and Cogan, Livingood and Curtis. Arch. Ophth. V. XXVII. p. 1126, 1942.
Kinsey, Grant, J. Gen. Physiol. V. XXVI, p. 119, 131, 1942.

COURSE 10

Room 720 **Periods T-2; T-3**

LeGRAND HARDY, M.D.
and
GERTRUDE RAND, Ph.D.
BY INVITATION
New York, N. Y.

Color Vision
Recent Developments in Color Vision Testing
A two period course — $3.00

Limited to 25

COURSE 11

Room 720 **Periods W-2; W-3**

LeGRAND HARDY, M.D.
and
GERTRUDE RAND, Ph.D.
BY INVITATION
New York, N. Y.

Color Vision
Recent Developments in Color Vision Testing
A two period course — $3.00

Limited to 25

Dr. Hardy's two hour course, "Color Vision," is being presented twice as Course 10 and Course 11. **Please select course number according to the day on which you wish to attend.**

Color vision testing requires standardization of two out of three variables involved in the process. The most important factors in color vision testing will be outlined. The important triads in seeing color, in illumination, in the color vision process and in the characteristics of the object will be described and related to the ICI-Coordinate System and Standard Observer. Color tests will be described, evaluated and demonstrated. Recent progress in research will be discussed.

COURSE 12

Room 736 **Periods T-1; T-2; W-1; W-2; Th.-1; Th.2**

LeGRAND H. HARDY, M.D., et al.

Orthoptics
A six period course — $9.00

Limited to 40

T-1—Evaluation of Orthoptics
LeGrand H. Hardy, M.D.
New York, N. Y.

Orthoptic training is a method of developing or restoring the normal binocular coordinated functions by means of graded training. In properly selected cases it is a very valuable addition to ophthalmology.

Since bad habits can be trained as well as good habits, the method is not without danger. Much of the criticism aimed at orthoptics is the result of ignorance, incompetence or misunderstanding.

T-2—Clinical Orthoptics
Truman L. Boyes, M.D.
New York, N. Y.

I. The clinical management of the phorias is outlined. Diagnosis and selection of cases is important. Routines for convergence training, divergence training and an analysis of the vertical imbalances are given.
II. The clinical management of the tropias with detailed procedures is outlined.

W-1—Fusion
Ernest A. W. Sheppard, M.D.
Washington, D.C.

Fusion: The geometrical, anatomical and physiological concepts of fusion. Evaluation of various tests. Normal fusion. Obstacles to fusion. Classification and treatment of abnormalities. Relation to disturbances of ocular motility.

W-2—Orthoptic Examination of Children
Frank D. Costenbader, M.D.
Washington, D. C.

Orthoptic examination of children consists essentially of three parts: first, the measurement of vision and the refractive

error (especially under cycloplegic); second, the measurement of the angle of squint and "ocular motility"; and third, the measurement of fusion with especial reference to retinal correspondence. The practical significance of these measurements will be stressed.

Th.-1—Adult Problems in Orthoptics

Beulah Cushman, M.D.
Chicago, Ill.

Orthoptics in the adult is even more satisfactory it seems to me than in children. It is used more often in the child for a tropia and unless it can be properly used in them combined with the necessary surgical procedures its use may be questioned. But in adults, with the asthenopic symptoms associated with continued near work, orthoptic exercises according to the diagnosis produce most satisfactory results, as these conditions are usually phorias and the results can be obtained in a comparatively short time.

Routine examination — History; vision with and without glasses; cover; screen comittance—receding near point; N.P.C. or P.C.B.; prism divergence; prism convergence; P.P.; motility; measurement in fields; refraction; post-cycloplegic examination.

Diagnosis and treatment as directed—Poor near point; convergence insufficiency; poor accommodation; convergence excess; divergence insufficiency; divergence excess; macular suppression; aniseikonia.

Th.-2—Orthoptics and Neuro-Ophthalmology

George P. Guibor, M.D.
Chicago, Ill.

Orthoptics and neuro-ophthalmology are closely related to each other. The diagnostic study of a patient with an ocular motor defect is really a specialized neurologic examination. This examination must take into consideration that there exists neural pathways, cortical, supranuclear and nuclear representations for vision and for movements of the eyes.

More interesting and practical than these facts is the certainty that correction of the refractive errors, the use of prisms and fusion exercises all influence the motor mechanism by means of recognized neurologic phenomena of reciprocal innervation, reinforcement, projection correspondence, Hering's law, and the conditioning of psycho-optic reflexes.

While certain of these neurologic phenomena are helpful in the use of orthoptics, others are a distinct disadvantage. This presentation has for its purpose the practical application of neurophysiology in the treatment of motor disturbances.

COURSE 13

Room 715 Periods W-1; W-2

FERDINAND L. P. KOCH, M.D.
New York, N. Y.

Integration of Classifications of Systemic Hypertensive Disease
A two period course — $3.00

Limited to 25

The several classifications of essential hypertension employed by the general or the specialty practitioner differ wholly or in part depending on the interpretation of individual observations. Many classifications have been offered, some of which have been oversimplified or have been too involved for routine clinical use; only a few are readily applicable to daily office and hospital practice as well as to research purposes. These useful few will be correlated synonymously in this course and the salient features will be illustrated by slides.

COURSE 14

Room 744 Periods Th.-1; Th.-2

PETER C. KRONFELD, M.D.
Chicago, Ill.

Gonioscopy
A two period course — $3.00

Limited to 35

COURSE 15

Room 744 Periods F-1; F-2

PETER C. KRONFELD, M.D.
Chicago, Ill.

Gonioscopy
A two period course — $3.00

Limited to 35

Dr. Kronfeld's two hour course "Gonioscopy" is being presented twice as Course 14 and Course 15. **Please select course**

number according to day on which you wish to attend.

COURSE 16

Room 750 **Periods W-1; W-2; W-3; Th.-1; Th.-2; Th.-3; F-1; F-2; F-3**

HEDWIG S. KUHN, M.D., et al.

Industrial Ophthalmology
A nine period course — $13.50

Limited to 30

W-1 — Industrial Eye Problems and the Ophthalmologist

Albert C. Snell, M.D.
Rochester, N. Y.
and
Derrick Vail, M.D.
Chicago, Ill.

W-2 — Modern Industrial Eye Testing Procedures and Special Corrective Problems

Hedwig S. Kuhn, M.D.
Hammond, Ind.

1. Background of visual testing in industry.
2. Battery tests in industry.
3. Individual tests of visual skills conducted inside of industry or in private office.
4. What visual functions need to be tested, recorded and why.
5. Handling of data obtained from various tests.
6. Special problems connected with visual testing in industry.
   a. Management contact and outlining program for testing.
   b. Educational program for employees prior to payroll testing.
   c. Setting up of visual standards for specific jobs with or without statistical data.
7. Special corrective problems.
   a. Abnormal near work distances.
   b. Abnormal positions of work.
   c. Refraction and dangerous jobs.
   d. Special features of occupational glasses and prescription goggles. Where examined? Who examined? Etc.
   e. Knowledge of job demands and mechanical features.
8. Follow-through and summary for employees and management.

W-3 — Vision, Management and the Physician

L. Holland Whitney, M. D.
Brooklyn, N. Y.

BY INVITATION

I. General Discussion of Industrial Health
   a) from management's point of view.
   b) from the employee's point of view.
   c) from the physician's point of view.
   d) Recent trends in Health Programs.

II. Contribution to Health and Safety by a Vision Program
   a) better selection and placement
   b) greater efficiency and reduced spoilage.
   c) Reduction in Absenteeism and Turnover.
   d) Safety to eyes and general safety
   e) First Aid for the Eyes

III. Where the Vision Program Belongs in Industrial Organization
   a) Personnel department
   b) Health department
   c) Safety department
   d) Relationship between departments.

IV. Impetus to Better Distribution of Eye Care to General Public.

V. Necessity for Specialist Knowing the Industry and Its Jobs.
   a) Periodic rechecks
   b) Industrial ophthalmology

VI. Desirability for Measuring Results of Vision Program in Reports to Management.
   a) What management wants from a Vision Program.

VII. Need for Labor-Management Cooperation.

VIII. Need for Management-Employee-Professional Cooperation.

IX. General Summary
   a) Need for better eye care
   b) Industrial Requirements
   c) Necessity for cooperation between professional groups.
   d) Suggestions for closer relationship between Industry and Ophthalmologists.

Th.-1 — Job Analysis for Visual Requirements

Joseph Tiffin, Ph.D.
Lafayette, Ind.

BY INVITATION

I. Standards resulting from analysis of vision test results: (1) Vary from job to job—comparison of rough drill press operation with milling machine operation. (2) Typical nearpoint jobs— (a) hosiery looping (illustrations from three mills); (b) mending. (3) Typical distance jobs—loaders and push truck operation. (4) Job titles alone do not give necessary requirements—rough vs. precision drill press operation. (5) Jobs requiring a variety of visual skills—machine tool operations.

II. Visual standards in relation to safety: (1) Accident data from heavy industry. (2) Accident data from paper industry.

III. Relation between visual analysis and professional services: (1) Identification of employees needing professional attention. (2) Evidence to show management the need of professional attention.

Th.-2 — Statistics and the Ophthalmologist

Joseph Tiffin, Ph.D.
Lafayette, Ind.

BY INVITATION

I. The logic of checking test scores against job performance: (1) Statistical vs. arbitrary approach. (2) Illustrations from various kinds of test scores. (3) Illustrations from physical measurements. (4) Illustrations from employment application data.

II. Methods of measuring job success: (1) Production. (2) Quality. (3) Labor turnover. (4) Training time or cost. (5) Accidents.

III. Typical illustrations of setting visual standards from statistical results: (1) Nearpoint vs. distance acuity results correlated with job success for a variety of jobs—(a) radio tube assembly, (b) electric soldering, (c) hosiery looping. (2) Visual skills as related to industrial accidents.

IV. Summary of the statistical or actuarial approach in setting job standards.

Th.-3 — Illumination and Color in Industry

Faber Birren
New York, N. Y.

BY INVITATION

Interrelations Between Illumination and Color.

(1) Ideal conditions.
(2) Problems of brightness.
(3) Factors affecting visual comfort.
(4) Uniformity against contrast.

Lighting Systems.

(1) The indirect system — diffused lighting.
(2) The direct system.
(3) Supplementary lighting.
(4) Recommended application of various lighting systems.
(5) Spectral quality in light.

Brightness Engineering.

(1) Coordinating illumination and color.
(2) The proper distribution of brightness.
(3) Recommended brightness ratios.
(4) The fault of extreme contrasts.

Industrial Conditions.

(1) Special problems to be solved.
(2) Light quality and light intensity.
(3) Machines and materials.
(4) White walls and glare.
(5) Avoidance of distractions.
(6) Maintenance and housekeeping.

Ideal Color Specifications.

(1) Ceilings, walls, floors.
(2) Machinery and equipment.
(3) Special backgrounds and end walls.
(4) Psychological considerations.
(5) Critical seeing tasks.
(6) Casual seeing — general plant facilities.
(7) Color Code for safety.

F-1 — Toxic Hazards

Charles F. Kutscher, M.D.
Pittsburgh, Pa.

The discussion will include the reaction of the eye due to the various types of chemical reagents enjoying a widespread use in industry. Both local and systemic effects following exposure will be included in this discussion. Considerable time will be spent on preventive measures.

F-2 — Eye Protection Equipment
John M. Roche
Chicago, Ill.
BY INVITATION

The cost of eye ointments; hazards to eyes in industry; methods of protection; types of eye protection; plastic face and eye protection; other types of face and eye protection; the prescription goggle; a suggested plant goggle program; some successful goggle programs. Demonstration and exhibit of testing hardened glass lenses.

F-3 — Plant Experiences and Seminar on Specific Problems
Hedwig S. Kuhn, M.D.
Hammond, Ind.

COURSE 17

Room 712 **Periods T-1; T-2; W-1; W-2; Th.-1; Th.-2**

DONALD J. LYLE, M.D.
Cincinnati, Ohio

Neuro-Ophthalmology
A six period course — $9.00

Limited to 30

A brief review of the anatomy of the visual and eye motor systems introduces the course. Vascular lesions, tumors and inflammations of the brain are discussed insofar as they affect the eye. Localization and diagnosis of intracranial lesions by ophthalmological examination with a discussion of their symptoms and syndromes closes the course.

COURSE 18

Room 722 **Periods T-2; T-3; W-2; W-3; Th.-2; Th.-3; F-2; F-3**

JOHN M. McLEAN, M.D.
New York, N. Y.
and
JACK S. GUYTON, M.D.
Baltimore, Maryland

Cataract Surgery
An eight period course — $12.00

Limited to 40

The course will cover a number of operative technics in considerable detail with motion picture illustration.

1. Preoperative preparation and methods of anesthesia.
2. Various types of incision and various types of closure of incision.
3. Management of the iris and various technics of delivery of the lens.
4. Various complications.
5. Postoperative management — discussion.

COURSE 19

Room 740 **Periods T-1; T-2; T-3; W-1; W-2; W-3; Th.-1; Th.2; Th.3**

ROBERT J. MASTERS, M.D.
Indianapolis, Indiana

HARVEY E. THORPE, M.D.
Pittsburgh, Pa.

PETER C. KRONFELD, M.D.
Chicago, Ill.

EVERETT L. GOAR, M.D.
Houston, Texas

Slit Lamp Biomicroscopy
A nine period course — $13.50

Limited to 30

The lectures and demonstrations of this course are planned for beginners in slit-lamp microscopy and for those registrants who desire a review of the elementary features of biomicroscopy.

The early part of each session is devoted to an illustrated lecture, which is followed by a period of actual work with the slit lamps by the members of the class.

The illustrated lectures cover, in regular order from day to day, studies of the normal and pathological cornea, anterior chamber, iris, crystalline lens, and vitreous humor. Special attention is given to the findings which can be made with no other instrument, and which make the slit lamp indispensable in the routine practice of ophthalmology.

The demonstration period is utilized to make each class member familiar with the manipulation of the instruments. During each demonstration period a round table, question-and-answer discussion is carried on for the class members who are already familiar with the instruments.

COURSE 20

Room 796 **Periods W-1; W-2; W-3; Th.-1; Th.-2; Th.-3; F-1; F-2; F-3**

SAMUEL J. MEYER, M.D., et al.

Glaucoma

A nine period course — $13.50

Limited to 50

W-1 — Definition, Mechanisms and Classification

Peter C. Kronfeld, M.D.
Chicago, Ill.

This paper deals with the definition, mechanisms, and classification of the ocular diseases comprised under the term "the glaucomas," associated with or due to elevated intraocular pressure. The three important factors of inflow of aqueous, outflow of aqueous, and intraocular blood volume are discussed in relation to hypertension, as well as the mechanisms influencing each. A tentative classification of the glaucomas, based upon the present knowledge, is suggested and elaborated upon.

W-2 — The Effect of Pressure Upon Retina and Optic Nerve. Principles of Nonsurgical Treatment of Hypertension

Glen W. Nethercut, M.D.
Chicago, Ill.

In the first part of the lecture, the effects of elevated intraocular pressure upon the retina and optic nerve are discussed, from an anatomical as well as from a functional standpoint. The two aspects are then correlated. In the second part, the principles and methods of nonsurgical treatment of elevated intraocular pressure are described at length. The lecture closes with a detailed description and discussion of methods of use of the various medications, both local and systemic, that are employed.

W-3 — Principles of Surgical Treatment of Hypertension.

Derrick Vail, M.D.
Chicago, Ill.

Th.1 — Narrow Angle Glaucoma

Thomas D. Allen, M.D.
Chicago, Ill.

In certain cases of elevated intraocular pressure, the angle of the anterior chamber is very shallow and this is associated with definite clinical pictures. In the majority of cases, acute congestion of the eyeball accompanies and complicates the condition, although in some cases that phase is lacking. The clinical appearance of both conditions is described and discussed at length as well as the therapeutic measures indicated.

Th.-2 — Wide Angle or Compensated Glaucoma

Samuel J. Meyer, M.D.
Chicago, Ill.

This is the most common form of glaucoma and the one that in its earliest stages requires the most careful diagnostic acumen. The condition is described in detail, structure by structure, and the diagnostic phases are evaluated for the various stages of the disease. Provocative methods are elaborated upon for both suspected as well as existing hypertension. The over-all picture is then rounded out.

Th.-3 — Diagnostic and Differential Diagnostic Problems

Frederick C. Cordes, M.D.
San Francisco, Calif.

Before the management of a case of glaucoma may be undertaken, it is essential that it be placed in one of the accepted classifications where the etiological aspect is considered. For that reason, the author deals at length with the differential diagnostic problems of the various forms of elevated intraocular pressure and points out in detail the various aspects that allow of an accurate diagnosis which in turn indicates the proper course of treatment necessary to control the condition.

F-1 — Congenital Hydrophthalmus

Ralph I. Lloyd, M.D.
Brooklyn, N. Y.

The hour is devoted to a discussion of the various aspects of congenital glaucoma, grouped under the term "hydrophthalmus." The clinical picture of each form is discussed at length, together with statistics of incidence. Treatment is elaborated upon as is the prognosis. A complete bibliography is appended.

F-2 — Glaucoma Secondary to Uveitis

F. Bruce Fralick, M.D.
Ann Arbor, Mich.

This is an elaborated discussion of hy-

pertension due to inflammations of the uvea. There are considered the sudden pressure increases due to acute and chronic uveitis and the gradual pressure increases due to these causes. Methods of treatment are discussed, both medical and surgical.

F-3 (a) The Histopathology of Acute Glaucoma

Brittain F. Payne, M.D.
New York, N. Y.

Discussion of the microscopic findings of the different ocular tissues under the influence of sudden and acute increase of intraocular pressure. The variations in size and content of the various parts of the eye have a definite relationship to the clinical picture of the disease and these are correlated by the author. The lack of specimens of fresh acute hypertension leaves many gaps in the pathological picture.

F-3 (b) The Histopathology of Chronic Glaucoma

Georgiana Dvorak-Theobald, M.D.
Oak Park, Ill.

The microscopic anatomy of the all-important chamber angle is described in detail and is correlated with the clinical picture of that type of glaucoma that is not associated with congestion. Of especial importance is the relationship between the Canal of Schlemm and the trabeculum. Due to the lack of specimens of early cases, some of the gaps in the histological picture have to be filled by deductions and speculations.

COURSE 21

Room 738 Periods T-1; T-2; T-3; W-1; W-2; W-3; Th.-1; Th.-2; Th.-3; F-1; F-2; F-3

A. D. PRANGEN, M.D., et al.

Refraction

A twelve period course — $18.00

Limited to 40

T-1 & 2 — Manifest Refraction — Evalu- of the Patient

Hendrie W. Grant, M.D.
St. Paul, Minn.

Refraction is an integral part of the complete ophthalmological examination. Certain symptoms have been known as those which produce asthenopia or fatigue. These symptoms and their relation to the habits, occupation and physical and nervous make-up of the individual are carefully evaluated. The method of manifest refraction with the cross cylinder is demonstrated, keeping constantly in mind the importance of the sphere.

The mechanism of accommodation is brought about by a contraction of the ciliary body with a resulting increase in the convexity of the lens. The amplitude reaches its peak in the early teens and gradually decreases with age. Amplitude of accommodation has a wide normal variation which must be constantly born in mind. Presbyopia is due to age changes in the ciliary body and sclerosis of the lens nucleus. Subnormal accommodation is due to a weakness of the ciliary body from toxic effects on the ciliary nerves or muscle. Illustrative cases are shown.

Converging power is best measured by the method of Duane, computed from the convergent near point and the intracentral base line. Exophoria may be the cause of symptoms of fatigue but does not of itself produce a remoteness of the convergent near point. Remoteness of the convergent near point is due to a functional or organic disturbance of the convergent center. Illustrative cases of the above with the treatment are demonstrated.

T-3 — Retinoscopy and Crossed Cylinders

D. H. O'Rourke, M.D.
Denver, Colo.

Skiascopy (retinoscopy) is the most accurate objective method of determining the refractive error of the eye. Only spherocylindric skiascopy with the plane mirror will be considered. The Copeland Refractascope has several advantages both mechanically and scientifically, and its use will be demonstrated.

The crossed cylinder is a most valuable method for the subjective testing of the refractive error of the eye. This simple device used intelligently affords positive information in regard to strength of cylinder and axis of cylinder. Demonstration of its use rather than the written word makes its clinical use easily understood.

W-1 — Presbyopia

Presbyopia introduces the problems concerned with the failing or failure of the accommodative mechanism. In this and the foregoing subjects clinical application will be stressed.

W-2 — Cycloplegic Examination and Refraction

A. D. Prangen, M.D.
Rochester, Minn.

Indications and contraindications for the use of cycloplegic drugs will be discussed. The several drugs, their action, methods of application and selection, will be taken up. Selection of cycloplegia and its use in different age periods will be discussed. The question as to what constitutes satisfactory and adequate cycloplegia will be discussed. Residual cycloplegia at the time of refraction and methods for its measurement will be described. The significance of full cycloplegic refractive findings and their relation to postcycloplegic findings will be stated. Postcycloplegic examination, technic, and application to final prescription will be described.

W-3 — Characteristics, Management and Prescribing for Various Refractive Types

The characteristics, differential interpretation, management and prescribing for hyperopia, myopia and astigmatism will be analyzed. Prescribing and handling of marked astigmatism, including partial correction for astigmatism will be discussed. Anisometropia, antimetropia and irregular astigmatism, their detection and correction will be described.

Th.-1 & 2 — Refraction Without Cycloplegic

James J. Regan, M.D.
Boston, Mass.

Admitting that use of a cycloplegic is desirable in children under fifteen and almost indispensable in children under nine, it will be our purpose to present a technic for measuring refractive errors subjectively, without the use of cycloplegic, which we have found dependable over a period of years, even when checked against cycloplegic examination of the same (identical) cases.

There is no hard and fast age limit. The technic is recommended generally for patients over fifteen years of age, though, on many occasions when time permitted, comparisons were made with cycloplegic studies on children under nine and the results were similar. There will, of course, be cases in age groups up to sixty which, for one reason or another, should be refracted under cycloplegic, and we highly recommend mydriasis for better ophthalmoscopy. But, for the purpose of prescribing adequate correction for the great majority of refractive errors, subjective refraction presents many advantages. If one wishes to test its reliability, one needs only to substitute this for the usual manifest test, and compare the results with cycloplegic and postcycloplegic tests.

1. The therapy and practice of fogging. The importance of controlling accommodation, particularly for the measurement of the astigmatic error. The value of astigmatic dials, and proper technic for their use. The advantage of fogging in subjective examination, even under cycloplegia.
2. Demonstration of the Lancaster technic, using members of the class (preferably those wearing corrections prescribed upon findings of a complete cycloplegic examination).

Th.-3 — Refraction in Cataract Cases

Murray F. McCaslin, M.D.
Pittsburgh, Pa.

The importance of accurate skiascopy; (retinoscopy); the value of keratometer readings; the method of manifest refraction; the use of cross cylinders; the vertex distance of the trial lens; centering of the trial lens; the amount of add necessary; time for the first refraction; time for the final refraction; Rx of temporary and final glasses; type of lenses employed.

F-1 — Refraction of Children's Eyes

Murray F. McCaslin, M.D.
Pittsburgh, Pa.

Indications; preliminary examination; cycloplegia of choice; complications and treatment; procedure of examination; skiascopy, subjective examination, use of cross cylinders; indication for post cycloplegic; selection of final Rx; time of interval for recheck.

F-2 — Applied Optics in Refraction

Fred Jobe, B.S.
Rochester, N. Y.

BY INVITATION

The function of an optical system, whether it is a spectacle lens or a rangefinder, consists of optically moving a physical object into a position where the object can be used. In refraction this po-

sition is the far point of the eye. The general laws governing the performance of a lens or prism are readily understandable. A knowledge of these principles is extremely valuable in the practice of refraction.

These general laws will be discussed in relation to refraction, effective power, transposition of formulae, spherical equivalents, cross cylinders and Sturm's interval, as well as some ophthalmic instruments such as refractors, duochrome tests and keratometers.

F-3 — Round Table Discussion

COURSE 22

Room 788 Periods W-1; W-2
BENJAMIN RONES, M.D.
Washington, D. C.

Corneal Dystrophies
A two period course — $3.00

Limited to 35

COURSE 23

Room 788 Periods F-1; F-2
BENJAMIN RONES, M.D.
Washington, D. C.

Corneal Dystrophies
A two period course — $3.00

Limited to 35

Dr. Rones' two hour course "Corneal Dystrophies" is being presented twice as Course 22 and Course 23. **Please select course number according to day on which you wish to attend.**

The avascular cornea is dependent upon the functional and anatomic integrity of its delimiting epithelium and endothelium in order to maintain its transparency. Disturbances of fluid transference will be studied and related to inflammation, injury and repair, degenerations and dystrophic changes in the corneal tissues. This course will be based upon pathologic material.

COURSE 24

Room 731 Periods T-1, W-1, Th.-1, F-1
C. WILBUR RUCKER, M.D.
Rochester, Minn.

Eye Changes of Central Origin
A four period course—$6.00

Limited to 40

I. The visual pathway.
   1. Perimetry, instruments and technic
   2. Structure of the visual pathway
   3. Interpretation of defects in the visual fields
II. Post-chiasmal lesions.
III. Chiasmal lesions.
IV. Pre-chiasmal lesions.
V. Psychogenic defects in the visual fields.
VI. Misleading defects in the visual fields
   1. Due to anomalies at the optic disc
   2. Due to increased intracranial pressure

This course will include three hours on perimetry and a one-hour discussion of nystagmus.

COURSE 25

Room 734 Periods Th.-1, Th.-2
EDMUND B. SPAETH, M.D.
Philadelphia, Pa.

Plastic Surgery
A two period course—$3.00

Limited to 35

COURSE 26

Room 736 Periods F-1, F-2
EDMUND B. SPAETH, M.D.
Philadelphia, Pa.

Plastic Surgery
A two period course—$3.00

Limited to 40

Dr. Spaeth's two hour course "Plastic Surgery" is being presented twice as Course 25 and Course 26. **Please select course number according to day on which you wish to attend.**

Ectropion is either the result of a deformity in the tarsal plate, is due to eversion from insufficient epithelial tissues upon the external surface of the lid, or is the result of cicatricial contraction. Also it may be caused by a combination of one or more of these conditions. Each basic factor, when applicable to a case under consideration, needs individual surgical treatment. This becomes even more important in those cases in which an ectropion case has, in addition, other ocular defects as canthal deformities or perhaps the loss of the eyeball from the original trauma. Skin grafting is necessary in cer-

tain cases, in others unnecessary and in still others it would be of no avail. Cicatricial contracting bands, responsible for an ectropion, when resected must be resutured so that a subsequent eversion of the lid margins cannot occur.

Entropion, as a plastic defect, is usually the result of the loss of a portion of the conjunctival surface of the lid. Even the entropion of trachoma frequently develops from such circumstances. So-called spastic entropion is a quite different condition as to etiology and treatment. A very large number of cases of cicatricial entropion need a mucous membrane graft for satisfactory correction. Other cases will appear in which the correction is obtained only through other surgical procedures.

Ptosis

Ptosis, congenital and acquired, is in the largest percentage of cases a condition which responds well to surgical correction. It is quite important, however, that one rejects surgery, as the therapy necessary, in inoperable ptosis. Congenital ptosis consists of so many different types that no one surgical technic can correct more than one set or group of such anatomical conditions. A classification for ptosis and the indicated operations for the various types will be presented and discussed. Acquired ptosis, which has a greater importance in the various etiological factors possible, will be similarly presented.

Contracted Sockets

The reconstruction of a deformed and/or contracted socket is frequently a most vexing problem. Epithelial grafts are not always necessary. In many instances a simple scar resection with the rearrangement of the conjunctiva still present will be sufficient. At other times the question appears as to the use of a mucous membrane graft in preference to an epithelial graft. Each of these has optimum indications.

The use of mucous membrane grafts for the correction of conjunctival defects is another surgical condition with rather definite surgical indications. These, when used wisely, reward both patient and physician with beautiful results.

Lid Constructions

Lid reconstructions are to be divided into three general classes. They are, those for scar resection and suture, those cases which need only additional epithelial tissue, either by grafts or through flaps, and a smaller number of cases in which both conjunctival as well as epithelial tissue are needed for the reconstruction. The presence or absence of an eyeball is especially important in such cases. All cases will be illustrated and discussed by sketches.

COURSE 27

Room 732 **Periods T-1, T-2, T-3, W-1, W-2, W-3, Th.-1, Th.-2, Th.-3, F-1, F-2, F-3**

GEORGIANA DVORAK THEOBALD, M.D.
Oak Park, Ill.

EDITH M. PARKHILL, M.D.
Rochester, Minn.

HELENOR CAMPBELL WILDER
Washington, D. C.

BY INVITATION

CHARLES A. PERERA, M.D.
New York, N. Y.

THEODORE SANDERS, M.D.
St. Louis, Mo.

MERRILL J. REEH, M.D.
Blair, Nebr.

MICHAEL J. HOGAN, M.D.
San Francisco, Calif.

BRITTAIN F. PAYNE, M.D.
New York, N. Y.

Pathology
A twelve period course—$18.00

Limited to 40

COURSE 28

Room 704 **Periods Th.-2, Th.-3**

GORDON L. WALLS, Sc.D.
Rochester, N. Y.

BY INVITATION

Color Vision
A two period course—$3.00

Limited to 25

COURSE 29

Room 704 **Periods F-2, F-3**

GORDON L. WALLS, Sc.D.
Rochester, N. Y.

BY INVITATION

Color Vision
A two period course—$3.00

Limited to 25

Dr. Walls' two hour course "Color Vision" is being presented twice as Course

28 and Course 29. **Please select course number according to day on which you wish to attend.**

The nature of color-experience will be described. The mechanism of normal color vision will be set forth in terms of the modern form of the three-component hypothesis. The basis, in modifications of this mechanism, of each of the important types of "color blindness" will be explained.

COURSE 30

Room 733 Periods T-3, W-3, Th.-3, F-3

HAROLD W. BROWN, M.D.
New York, N. Y.
and
RUDOLF AEBLI, M.D.
New York, N. Y.

James Watson White Memorial Extension Course
Ocular Motor Anomalies
A four period course—$6.00

Limited to 35

In the four periods assigned to this course, the physiological action of the extraocular muscles will be reviewed and the principles of the pathological variations developed. Tests will be considered with their uses, interpretations and limitations.

The nonsurgical and surgical treatment will be discussed.

COURSE 31

Room 724 Periods T-1, T-2, W-1, W-2, Th.-1, Th.-2, F-1, F-2

HAROLD W. BROWN, M.D., et al.

James Watson White Memorial Course
Anomalies of the Extraocular Muscles
An eight period course—$12.00

Limited to 40

T-1 & 2—Physiology and Pathology of the Extraocular Muscles

Harold W. Brown, M.D.
New York, N. Y.

The physiological actions of the ocular muscles will be discussed.

a. As individual muscles.
b. In the acts of associated movements.
c. In the disjunctive acts of convergence, divergence, sursumvergence and rotations.

From these physiological acts, the pathological variations from normal are developed and classified, and a method of differential diagnosis outlined.

W-1 & 2—Tests

Maynard C. Wheeler, M.D.
New York, N. Y.

This will include a demonstration and discussion of the most important methods used in the diagnosis and measurement of muscle defects. Particular emphasis will be placed on the screen test and its actual application in routine practice.

Th.-1 & 2—Congenital Anomalies

Rudolf Aebli, M.D.
New York, N. Y.

The subject matter will cover the more usual congenital anomalies such as retraction syndrome and its variations, strabismus fixus, Marcus Gunn or jaw winking syndrome, paralyses of both elevators of one eye with true and pseudoptosis and also congenital individual muscle anomalies.

F-1 & 2 — The Surgical Treatment of Heterophoria and Heterotropia

John H. Dunnington, M.D.
New York, N. Y.

Special emphasis will be placed upon the importance of selecting the proper type of operative procedure. A brief review of the methods used to aid in this selection will then be given, followed by a full discussion of the indications and contraindications for the different types of surgical procedures.

COURSE 32

Room 752 Periods T-3, W-3, Th.-3, F-3

ALAN C. WOODS, M.D.
Baltimore, Md.

Medical Ophthalmology
A four period course—$6.00

Limited to 40

Lecture 1. The Clinical Manifestations of Ocular Tuberculosis.

a. Relation of phlyctenulosis to tuberculosis.
b. Various forms of tuberculous keratitis.
c. Tuberculous uveitis—iritis—choroiditis—tuberculous involvement of the optic nerve, etc.

These various clinical manifestations of ocular tuberculosis will be discussed and illustrated by lantern slides.

Lecture 2. Treatment, Diagnosis and Pathogenesis of Ocular Tuberculosis.

The diagnostic problem will be outlined with various criteria for a definite and presumptive diagnosis of ocular tuberculosis. The pathogenesis of the disease will be discussed chiefly as to hypersensitivity and immunity in the different types of lesions. The various methods of treatment including chemotherapy, non-specific protein therapy, irradiation therapy and desensitization will be discussed.

Lecture 3. The Ocular Manifestations of Congenital Syphilis.

The various ocular manifestations will be outlined with specific attention to interstitial keratitis. The various theories on the pathogenesis of the disease, especially the immunology theory, will be discussed. The modern treatment of interstitial keratitis will be outlined.

Lecture 4. Ocular Manifestations of Acquired Syphilis.

This lecture will consist of a complete review of the various manifestations of acquired syphilis, both in the early acquired and late syphilis. The discussion will include the pathogenesis and treatment of syphilitic, primary optic atrophy.

Continuous Courses

OTOLARYNGOLOGY

1946

COURSE 51

Room 726 **Periods M-4; M-5**

COL. T. G. BLOCKER
Camp Atterbury, Indiana

BY INVITATION

Reconstruction of Contour in Defects of the Face Resulting from Trauma
A two period course—$3.00

Limited to 30

COURSE 52

Room 726 **Perods T-4; T-5**

COL. T. G. BLOCKER
Camp Atterbury, Indiana

BY INVITATION

Reconstruction of Contour in Defects of the Face Resulting from Trauma
A two period course—$3.00

Limited to 30

Col. Blocker's two hour course, "Reconstruction of Contour in Defects of the Face Resulting from Trauma" is being presented two times as Course 51 and Course 52. **Select course number according to the day on which you wish to attend.**

Contour deformities of the face following trauma are defined with mention of differences between traffic injuries and combat wounds and types of deformities are described in the regions of the mandible, maxilla, orbit, nose and ear. The defects are classified according to severity and complexity as depression deformities, distortion deformities and avulsion deformities.

General principles of technic are described in regard to acute injury of the face. These include emergency treatment, conservative debridement, avoidance of tension, accurate closure in layers, adherence to anatomical principles for direction of suture lines, use of pressure dressings and early treatment of fractures of the facial bone.

The Plan of Procedure for definitive reconstructive surgery is discussed with emphasis on complete study of the patient from the psychosomatic point of view.

Indications for various methods of treatment of contour deformities are discussed, including fascia and derma-fat grafts, cartilage and bone transplants and prosthetic appliances.

COURSE 53

Room 726 **Periods W-4; W-5**

JAMES B. BROWN, M.D.
St. Louis, Mo.

BY INVITATION

Facio-maxillary Surgery
A two period course—$3.00

Limited to 30

COURSE 54

Room 726 **Periods Th.-4; Th.-5**

JAMES B. BROWN, M.D.
St. Louis, Mo.

BY INVITATION

Facio-maxillary Surgery
A two period course—$3.00

Limited to 30

Dr. Brown's two hour course, "Faciomaxillary Surgery," is being presented two times as Course 53 and Course 54. **Select course number according to the day on which you wish to attend.**

With the use of colored lantern slides, 3¼x4 inches, an outline will be presented of the lesions that have been studied in the Army and reports will be made of methods of repair.

COURSE 55

Room 726 Periods T-6; W-6; Th.-6

RAYMOND CARHART, Ph.D.
Evanston, Illinois
BY INVITATION

Audiometric Technic and the Fitting of Hearing Aids

A three period course—$4.50

Limited to 30

This course will begin with a consideration of the methods of testing hearing by modern electronic equipment. The use of the audiometer as a diagnostic tool will be discussed, with special emphasis on its application in administering functional tests of hearing.

The theory and practice of audiometry will be covered in detail. Special tests such as "loudness balance" will be described. Monitored voice tests (speech reception) and their relation to pure tone results will be emphasized. The specific application of auditory masking will be explained. Group audiometry, methods of exposing malingering, and the interpretation of audiograms will be considered.

The tone field method of testing hearing in little children will be discussed.

The first half of the course will be devoted to the pure tone audiometry and other methods of testing hearing with particular emphasis upon the clinical application.

A survey of the construction and function of the modern audiometer will be followed by a consideration of currently acceptable instruments. The standards for audiometers set up by the Council on Physical Medicine of the American Medical Association will be reviewed. Procedures for the calibration and maintenance of audiometers will be outlined.

Technics for determining auditory malingering will be described and evaluated.

The last half of the course will be devoted to hearing aids.

The construction of the typical hearing aid and the main feature of hearing aid function will be discussed. Contemporary hearing aids can be grouped according to special characteristics. Examples will be given. Practical features of convenience, breakdown, maintenance, and repair will be outlined. The standards for hearing aids of the Council on Physical Medicine will be reviewed and the role of the Council discussed.

The course will conclude with an analysis of the otologist's responsibilities and opportunities. Lay abuses which threaten the best interests of those with impaired hearing must be eliminated. The practicing otologist must assert aggressive leadership in mobilizing community attitudes and facilities to meet hearing conservation needs and dealing with the problems of hearing aids.

COURSE 58

Room 716 Periods M-6; T-6; W-6

LOUIS H. CLERF, M.D.
Philadelphia, Pa.

Causes of Hoarseness with Particular Reference to Treatment

A three period course—$4.50

Limited to 30

This course is devoted to a brief consideration of the symptom "hoarseness" and the diagnosis of conditions producing it.

Diseases of the larynx are discussed especially from the standpoint of treatment, and many of the more common typical and atypical laryngeal lesions are shown in Kodachrome with movie film.

COURSE 59

Room 744 **Periods M-4; M-5**

SAMUEL J. CROWE, M.D.
Baltimore, Md.
BY INVITATION

The Anatomy, Physiology and Pathology of the Nasopharynx, Eustachian Tube and Middle Ear

A two period course—$3.00

Limited to 40

COURSE 60

Room 744 **Periods T-4; T-5**

SAMUEL J. CROWE, M.D.
Baltimore, Md.
BY INVITATION

The Anatomy, Physiology and Pathology of the Nasopharynx, Eustachian Tube and Middle Ear

A two period course—$3.00

Limited to 40

COURSE 61

Room 744 **Periods W-4; W-5**

SAMUEL J. CROWE, M.D.
Baltimore, Md.
BY INVITATION

The Anatomy, Physiology and Pathology of the Nasopharynx, Eustachian Tube and Middle Ear

A two period course—$3.00

Limited to 40

Dr. Crowe's two hour course, "The Anatomy, Physiology and Pathology of the Nasopharynx, Eustachian Tube and Middle Ear" is being presented three times as Course 59, Course 60, and Course 61. **Select course number according to the day on which you wish to attend.**

Methods of examination of the upper air passages, and treatment, with special reference to radium treatment of hyperplastic lymphoid tissue.

COURSE 62

Room 752 **Periods T-4; T-5**

STUART C. CULLEN, M.D.
Iowa City, Iowa
BY INVITATION

Practical Aids to Safe and Satisfactory Anesthesia for Otolaryngological Surgery

A two period course—$3.00

Limited to 40

COURSE 63

Room 752 **Periods W-4; W-5**

STUART C. CULLEN, M.D.
Iowa City, Iowa
BY INVITATION

Practical Aids to Safe and Satisfactory Anesthesia for Otolaryngological Surgery

A two period course—$3.00

Limited to 40

Dr. Cullen's two hour course, "Practical Aids to Safe and Satisfactory Anesthesia for Otolaryngological Surgery" is being presented two times as Course 62 and Course 63. **Select course number according to the day on which you wish to attend.**

Experience with this course during the past years has demonstrated that the factors in which most otolaryngologists are interested are the proper use of preanesthetic medication with morphine, scopolamine, and the short acting barbiturates, the use of the endotracheal technic, the rational use of Pentothal for anesthesia by the intravenous route, regional blocks for head and neck work, the safe use of cocaine and similar drugs, recognition of and treatment of reactions to these drugs, and the use of curare for difficult endoscopies.

These are the elements that will be emphasized in this two hour continuous course. The discussion will be detailed but limited to the practical aspects. Specific examples will be used where possible and illustration of the material by slides will be done where it is feasible.

The first hour will be utilized in the discussion of preanesthetic medication, the endotracheal technic and the use of Pentothal. The second hour will be devoted to the consideration of the use of cocaine and similar drugs, the reactions to these drugs, the regional blocks adapted to otolaryngological surgery, and the use of curare for difficult endoscopies.

Practical application of the fundamentals to be discussed in the course should result in more cooperative, comfortable and satisfied patients, safer and more convenient use of Pentothal, extension of surgery under block anesthesia, safer and better results with cocaine, and facilitation of endoscopy in the difficult patient.

COURSE 64

Room 716 **Periods W-4; W-5**

L. W. DEAN, JR., M.D.
St. Louis, Mo.

Applied Anatomy of the Brain and Cranial Nerves in Relation to the Function of the Nose, Throat, Larynx and Esophagus
A two period course—$3.00

Limited to 30

COURSE 65

Room 716 **Periods Th.-4; Th.-5**

L. W. DEAN, JR., M.D.
St. Louis, Mo.

Applied Anatomy of the Brain and Cranial Nerves in Relation to the Function of the Nose, Throat, Larynx and Esophagus
A two period course—$3.00

Limited to 30

Dr. Dean's two hour course, "Applied Anatomy of the Brain and Cranial Nerves in Relation to the Function of the Nose, Throat, Larynx and Esophagus" is being presented two times as Course 64 and Course 65. **Select course number according to the day on which you wish to attend.**

One hour will be devoted to a practical review of the nervous pathways of the brain, the cranial nerves and their nuclei.

The second hour will deal with non-surgical diseases of the nervous system and their effects on the sensations of smell, taste and pain as well as the motor functions of the face, tongue, palate, larynx and esophagus.

Disseminated sclerosis, poliomyelitis, Bell's palsy, the neuralgias, herpes, the reflexes and other similar topics will be discussed.

COURSE 66

Room 777 **Periods T-4; T-5**

FREDERICK A. FIGI, M.D.
Rochester, Minn.

Plastic Surgery in Otolaryngology
A two period course—$3.00

Limited to 35

COURSE 67

Room 777 **Periods W-4; W-5**

FREDERICK A. FIGI, M.D.
Rochester, Minn.

Plastic Surgery in Otolaryngology
A two period course—$3.00

Limited to 35

COURSE 68

Room 777 **Periods Th.-4; Th.-5**

FREDERICK A. FIGI, M.D.
Rochester, Minn.

Plastic Surgery in Otolaryngology
A two period course—$3.00

Limited to 35

Dr. Figi's two hour course, "Plastic Surgery in Otolaryngology," is being presented three times as Course 66, Course 67, and Course 68. **Select course number according to the day on which you wish to attend.**

This course will consist of two parts. The first will deal with the correction of various types of nasal deformities, the second with plastic surgery of the ears, accessory sinuses and throat.

Plastic surgical problems arising in connection with the nose are practically innumerable, ranging from fancied deformities to loss of the entire nose. A minor nasal disfigurement may constitute a serious mental handicap to one person while a deformity of rather marked degree may be of little or no concern to another person. Accordingly the patient's attitude regarding the condition often must be the chief criterion in determination of the advisability of surgical treatment. A striking change in personality often follows correction of even minor deformities of the face and may be one of the most gratifying results of treatment.

A great variety of congenital, developmental, traumatic, postoperative, postradiation and postinfection deformities of the nose are encountered. Some of these can be corrected by means of almost standardized surgical measures but in the majority of cases the problems presented must be worked out individually on their own merits. The various technical procedures useful in different types of cases will be discussed.

Plastic repair frequently is necessary following removal of neoplasms of the external part of the nose, also of the nasal fossae and the accessory sinuses. Distortion of the nose, stenosis of the vestibules, loss of varying amounts of the external nose, perforation of the palate and cheek and extrinsic ankylosis of the mandible may occur in these cases. Correction often presents considerable difficulty.

The number of problems related to plastic operations about the ears has increased as new procedures and refinements in technic have extended the limits of reconstructive possibilities in connection with this organ. The most common aural conditions necessitating corrective surgery are prominence of the auricles, congenital absence or traumatic loss of a portion or of the entire pinna, malformation of the ear, stenosis or complete atresia of the external auditory canal and facial paralysis incident to disease of the middle ear or to mastoidectomy. Defects resulting from removal of neoplasms also frequently require plastic repair. However, in elderly persons such losses often are better taken care of by artificial restoration. Methods of dealing with the various problems encountered in this connection will be considered in the course.

Stenosis of the nasopharynx, while encountered only infrequently, is difficult of correction as is evidenced by the number of different operations advocated for its relief. Methods that have been employed will be reviewed and an original procedure useful in this connection will be described.

Chronic stenosis of the larynx continues to present some of the most difficult problems which confront the laryngologist. However, considerable progress has been made in the treatment of this condition in recent years and with judicious, persistent treatment a cure can now be effected in most instances. The technical procedures that have been employed in this connection will be discussed and those found most effective will be described in detail.

COURSE 69

Room 754 **Periods M-4; M-5; T-4; T-5; W-4; W-5**

EDMUND P. FOWLER, JR., M.D.
New York, N. Y.

Histology of the Ear
A six period course—$9.00

Limited to 40

Low and high power study of horizontal and vertical sections through the temporal bone at various critical levels.

The aim of the course is to teach the participants enough cross section anatomy in the temporal bone so that when they see medical illustrations of histological material they will be oriented.

COURSE 70

Room 744 **Periods M-6; T-6; W-6**

NORMAND L. HOERR, M.D.
Cleveland, Ohio
BY INVITATION

Onatomy of the Ear, Nose and Throat
A three period course—$4.50

Limited to 40

First Lecture: Surgical anatomy of the nose; the relationships of the turbinates, the meatuses, and the ostia; the paranasal sinuses; the structure of the nasal septum; the blood supply and innervation of the mucous membrane of the nasal cavity; the relationship of the opening of the eustachian tube to surrounding structures; the lymphatic drainage of the nose.

Second Lecture: Surgical anatomy of the pharynx; relationships and blood supply of the palatine tonsil and the pillars of the fauces; the relations of the muscles of the soft palate; the structure of the nasal pharynx with a consideration of lymphoid tissue, especial attention being paid to the superior constrictor of the pharynx.

Third Lecture: The anatomy of the middle ear; the structure of the tympanic membrane; the ossicles; the opening of the eustachian tube into the middle ear and the attic; consideration of the relationships of structures in the medial wall of the tympanic cavity; the anatomy of structures considered most important in operations upon the middle ear.

Each lecture will consist of a description with charts and lantern slides for 35 to 40 minutes, to be followed by a 15 minute reel of Kodachrome moving pictures. Dissections and models will be exhibited.

COURSE 71

Room 777 **Periods M-4; M-5**
W. C. HUFFMAN, M.D.
Iowa City, Iowa
BY INVITATION

Plastic Reconstruction of the Nasal Septum
A two period course—$3.00

Limited to 35

COURSE 72

Room 754 **Periods Th.-5; Th.-6**
W. C. HUFFMAN, M.D.
Iowa City, Iowa
BY INVITATION

Plastic Reconstruction of the Nasal Septum
A two period course—$3.00

Limited to 40

Dr. Huffman's two period course, "Plastic Reconstruction of the Nasal Septum," is being presented two times as Course 71 and Course 72. **Select course number according to the day on which you wish to attend.**

This includes a new concept and approach to surgery on the nasal septum, the new concept being that the septal cartilage acts as a support to the external nose only when there is excessive scarring of the septal mucosal. In plastic reconstruction of the septum the entire septal cartilage is removed and is either replaced with the patient's own cartilage or preserved cartilage. This operation allows correction of defects in the anterior-most portion of the septum without fear of a subsequent saddle nose.

COURSE 73

Room 786 **Periods M-4; M-5**
JULIUS LEMPERT, M.D.
New York, N. Y.

Modern Temporal Bone Surgery
The Philosophy of Its Evolutionary Growth
A two period course—$3.00

Limited to 40

COURSE 74

Room 786 **Periods T-4; T-5**
JULIUS LEMPERT, M.D.
New York, N. Y.

Modern Temporal Bone Surgery
The Philosophy of Its Evolutionary Growth
A two period course—$3.00

Limited to 40

COURSE 75

Room 786 **Periods W-4; W-5**
JULIUS LEMPERT, M.D.
New York, N. Y.

Modern Temporal Bone Surgery
The Philosophy of Its Evolutionary Growth
A two period course—$3.00

Limited to 40

COURSE 76

Room 786 **Periods Th.-4; Th.-5**
JULIUS LEMPERT, M.D.
New York, N. Y.

Modern Temporal Bone Surgery
The Philosophy of Its Evolutionary Growth
A two period course—$3.00

Limited to 40

Dr. Lempert's two hour course "Modern Temporal Bone Surgery. The Philosophy of Its Evolutionary Growth," is being presented four times as Course 73, Course 74, Course 75, and Course 76. **Select course number according to the day on which you wish to attend.**

Raison d'etre, plus lantern slide demonstration and description of new surgical technics developed and employed advantageously for:

Exostosis of the external auditory canal; correction of postauricular fistula; radical mastoidectomy; simple mastoidectomy; sinus thrombosis; middle fossa abscess; posterior fossa abscess; suppurative labyrinthitis; suppurative apicitis; facial nerve repair; modified radical mastoidectomy; improvement of hearing in clinical otosclerosis; decompression of labyrinthine hydrops; relief of tinnitus aurium.

COURSE 77

Room 784 Periods W-5; W-6
PHILIP E. MELTZER, M.D.
Boston, Mass.

A Conservative Discussion of the Fenestration Operation
A two period course—$3.00

Limited to 35

COURSE 78

Room 784 Periods Th.-5; Th.-6
PHILIP E. MELTZER, M.D.
Boston, Mass.

A Conservative Discussion of the Fenestration Operation
A two period course—$3.00

Limited to 35

Dr. Meltzer's two hour course, "A Conservative Discussion of the Fenestration Operation," is being presented two times as Course 77 and Course 78. **Select course number according to the day on which you wish to attend.**

PART I

1. Basis for diagnosis.
2. Tests used to estimate auditory function and cochlear reserve.
3. How does one determine the suitability of patient for operation?
   a. Physical.
   b. Psychological.
   c. Otological examination and hearing tests.
4. What should the otologist tell the patient asking advice concerning the surgical treatment for deafness?

PART II

1. Principles of the fenestration operation.
   a. Physiology and physics involved.
2. Discussion of animal experiments.
3. Clinical observations versus experimental observations.
4. Revisions.
5. The future of otosclerosis and its treatment.

COURSE 79

Room 788 Periods M-5; M-6
WERNER MUELLER, M.D.
Boston, Mass.

Practical Audiometry
A two period course—$3.00

Limited to 35

COURSE 80

Room 788 Periods T-5; T-6
WERNER MUELLER, M.D.
Boston, Mass.

Practical Audiometry
A two period course—$3.00

Limited to 35

COURSE 81

Room 788 Periods W-5; W-6
WERNER MUELLER, M.D.
Boston, Mass.

Practical Audiometry
A two period course—$3.00

Limited to 35

COURSE 82

Room 788 Periods Th.-5; Th.-6
WERNER MUELLER, M.D.
Boston, Mass.

Practical Audiometry
A two period course—$3.00

Limited to 35

Dr. Mueller's two hour course, "Practical Audiometry," is being presented four times as Course 79, Course 80, Course 81, and Course 82. **Select course number according to the day on which you wish to attend.**

The most important phase of the problem of deafness is its recognition. In this

course the diagnosis of deafness will be dealt with under the following headings.

1. History taking
2. The physical examination
3. Audiometry
4. Differential diagnosis

The subject will be presented from the standpoint of the practicing otologist. Special emphasis is laid on idiopathic deafness.

COURSE 83

Room 795 **Periods M-5; M-6**

E. SCHELDRUP, M.D.
Iowa City, Iowa

BY INVITATION

Anatomy of the Neck
A two period course—$3.00

Limited to 35

COURSE 84

Room 795 **Periods T-5; T-6**

E. SCHELDRUP, M.D.
Iowa City, Iowa

BY INVITATION

Anatomy of the Neck
A two period course—$3.00

Limited to 35

COURSE 85

Room 795 **Periods W-5; W-6**

E. SCHELDRUP, M.D.
Iowa City, Iowa

BY INVITATION

Anatomy of the Neck
A two period course—$3.00

Limited to 35

COURSE 86

Room 795 **Periods Th.-5; Th.-6**

E. SCHELDRUP, M.D.
Iowa City, Iowa

BY INVITATION

Anatomy of the Neck
A two period course—$3.00

Limited to 35

Dr. Scheldrup's two hour course, "Anatomy of the Neck," is being presented four times as Course 83, Course 84, Course 85, and Course 86. **Select course number according to the day on which you wish to attend.**

The neck will be presented in a simplified form based chiefly upon fascial relations. The connective tissue spaces and approaches to these will be discussed. The major nerves and vessels will be considered with guides in approaching or avoiding the same. Charts, lantern slides, and anatomical specimens will illustrate the discussion.

Individual Courses
OPHTHALMOLOGY
1946

COURSE 201

Room 720 **Periods T-1; W-1**

JAMES H. ALLEN, M.D.
Iowa City, Iowa

Bacteriology — Office Tests and Treatments

Successful application of many of the newer therapeutic agents depends upon accurate etiologic diagnosis of inflammatory disease. Methods of diagnosis which may be used in routine office practice will be discussed as well as indications for further laboratory examinations. Therapy will be discussed in relation to etiology.

COURSE 202

Room 706 **Period F-2**

THOMAS D. ALLEN, M.D.
Chicago, Ill.

Presbyopia

With advancing age the crystalline lens becomes more sclerosed and hard and its shape cannot be so easily changed. The amplitude of accommodation diminishes, beginning in extreme youth; this is not of any moment until one no longer can easily see objects at a reading distance; at this stage the condition is termed "Presbyopia" or old age.

Grossman (1904) found the apparent diameter of the human lens in rest was 11.5 mm.; under homatropine it was 12.25 mm. and under eserine 10.25 mm. All investigators agree the lens becomes thicker during accommodation, the anterior surface moving forward and making the center of the anterior chamber shallower, while the posterior surface of the lens remains stationary.

Considerable disagreement has appeared regarding the mechanism by which the central and axial and the peripheral parts of the lens change; two theories those of Tscherning and of Helmholtz, have been especially agitated both here and abroad.

Anomalies of Accommodation

We will take up the method used by Alexander Duane to get the data he used to establish the curve for the normal development of presbyopia.

The study of thousands of these records led to the very obvious conclusion that presbyopia is not a disability that appears as by the wave of a wand at age 45. It is the continuation of a process that can be measured and followed from year to year, from the time the patient understands the necessary questions and is sufficiently cooperative. Furthermore, those who repeat the careful technic corroborate his findings.

Occasionally one finds variations from the average. For example: In a patient who is anemic one is apt to find less than normal accommodative power, a condition Duane termed "hypocyclosis". Less often one finds a "hypercyclosis" and this usually in a very athletic type.

Fitting glasses to a presbyope requires the study of the individual as an individual; his height, the lengths of his arms, his habits of reading, his work, and often his muscle-balance. Midgets, for example, will require presbyopic correction long before the average, as their arms are quite short. Tall, long-armed individuals will often not need reading addition until the age of 50 or even later.

Those who read with bright light will not need the amount of addition that is required if less light is habitually used. Accountants, carpenters and some shopkeepers who have to see clearly at ½ to 1 M. will not want as much correction for their work as they will require for reading. Musicians may have to have several pairs of glasses—e.g., one for organ or base fiddle, one for piano or violin, and one for reading. Some housekeepers wish a weaker glass for ironing and work around the kitchen than for sewing. Card players often prefer a middle distance correction, as do surgeons. Doctor Hedwig Kuhn called our attention, a few years ago, to the problems of the loopers in our hosiery mills who work for long hours a distance of 8 inches.

Complicating Factors

Association of muscle balance: In cases of convergence insufficiency one should be careful not to order too strong an addition, whereas in convergence excess this is not such a problem.

In vertical imbalance increasing in eyes down, a prism may be most gratefully accepted. But great care must be exercised not to order it indiscriminately. The vertical imbalance may be a fleeting phenomenon or may be due to improper adjustment of the trial frame, or of the patient's glasses. Retesting on another day may help us solve the problem.

Regarding the use of prisms, there is, as you know, considerable disagreement among our best teachers. We have found one way to help us solve this problem before actually ordering the glasses. We have such patients tested for the ability to fuse the images of the two eyes. If they have no simultaneous macular perception, if they suppress the vision of one eye constantly, certainly prisms will be of no use. The greater is the fusional ability, the more **may** be the advantages of prisms. We therefore place in a light weight trial frame the combination of lenses we expect to order and have the patients wear them for 30 to 40 minutes, during which time we may remove the prisms or reduce the strength of prism one or twice.

COURSE 203

Room 716 **Periods T-1; Th.-1**

CHARLES A. BAHN, M.D.
New Orleans, La.

Fundamentals of Ophthalmic Diagnosis

A practical plan is presented to facilitate the diagnosis of any ophthalmic case in the shortest time and simplest manner possible. A screening or roughing out examination is first made followed by specific structural and fundamental examinations as needed. The factual information gained is then interpreted in terms of diagnostic pathology and causation. If diseases of other bodily systems are involved they are similarly correlated with the ophthalmic findings. The essence of this information is the diagnosis.

COURSE 204

Room 705 Periods Th.-1; F-1
MASON BAIRD, M.D.
Atlanta, Ga.

Vitamins and Other Adjuncts to Diet

1. Discussion of the clinical manifestations of Vitamin A deficiency, i.e., Xerosis, Keratomalacia, Xerophthalmia and Nyctalopia.
2. Ariboflavinosis as manifest by glossitis, chelitis and keratitis.
3. Thiamine Chloride in toxic amblyopia and Vitamin D as an adjunct in calcium deficiencies.
4. Discussion of cholesteremia as manifest in Xanthoma and hyperprotemenia in Nephritis and Arteriolarsclerosis.

This lecture will be illustrated with lantern slides and diagrams.

COURSE 205

Room 731 Periods T-2; W-2
CONRAD BERENS, M.D.
New York, New York

Uveitis — Etiology and Treatment

Etiology will be discussed under three main headings: experimental, clinical and histological.

Statistical analyses of etiologic diagnoses will be considered.

Data will be submitted showing the comparison between clinical and pathological diagnoses in a large series of cases.

Medical and surgical treatment will be discussed, with especial reference to recent advances in chemotherapy.

COURSE 206

Room 731 Period F-2
CONRAD BERENS, M.D.
New York, N. Y.

Instruments — New — Surgical

COURSE 207

Room 706 Periods T-3; W-3; Th.-3; F-3
MILTON BERLINER, M.D.
New York, N. Y.

Office Value of Slit Lamp Microscopy

This course will stress the practical side of the Biomicroscope or Slit Lamp as an instrument indispensable to every day office and clinical practice. In surgical cases where intraocular procedures are contemplated, failure to employ this method of examination is tantamount to the lack of understanding of such physiologic phenomena as vision, fields and tension. Likewise its importance in medicolegal and compensation work need hardly be emphasized here. In certain quarters it is still held that the use of the biomicroscope requires special skills or that an examination with it is time-consuming. As a matter of fact, using a systematic routine, a complete biomicroscopic survey of the anterior segment should take no longer than does the ordinary ophthalmoscopic examination. A quick and practical procedure for the understanding of specular reflection will be emphasized. The failure to employ the narrow beam is a common omission that in my opinion hinders the observation of the more delicate nuances afforded by biomicroscopy. Exact localization, in the conjunctiva, cornea and lens is hardly possible without it.

Special attention will be given to biomicroscopic examination of the conjunctiva in relation to conjunctival disease and avitaminoses. The various technics for examination of the iris, lens, vitreous, and their importance in differentiating between congenital anomalies, inflammations and new growths will be demonstrated.

COURSE 208

Room 714 Periods T-1; W-1
JOHN A. BILLINGSLEY, M.D.
Kansas City, Kansas

Headaches and Head Pains of Ocular Origin

Anatomy, physiology, and pathology of the neuro-vascular system involving the eye, orbit, external (soft tissue) structures of the face and skull, and internal structures of the skull having pain sensation.

The correlation of psychology with this type of pain, especially "Headaches."

Refractive errors, muscle imbalance, binocular single vision, monocular vision with only one seeing eye, or alternating.

Inflammations of the uveal tract, acute and chronic glaucoma, etc.

Discussion of importance of a thorough careful history, so that the busy ophthalmologist does not unconsciously divorce himself from the practice of medicine, and in so doing reminding the General Practioner of the importance of ophthalmology in general systemic diseases.

COURSE 209

Room 716 **Periods T-2; W-2**

PAUL BOEDER, Ph.D.
Southbridge, Mass.

BY INVITATION

Aniseikonia

A clarification of the concept of aniseikonia will be followed by a description of the means of measurement and correction. Some statistics will be presented. The effect of aniseikonia on binocular space perception will be discussed in detail, and the possibility of a functional test of aniseikonia will be outlined.

COURSE 210

Room 712 **Periods Th.-3; F-3**

DONALD WEEKS BOGART, M.D.
New York, N. Y.

Corneal and Conjunctival Burns

A. The subject may be considered as a single entity, since both cornea and conjunctiva are usually affected together when burns occur. Sequellae and late therapy will be used separately when indicated.

B. Burns may be classified as follows:
   1. Acids.
   2. Alkalis, including lime.
   3. Molten metals.
   4. Radiant Energy —
      (a) Sunlight and Ultra-violet.
      (b) Infra-red.
      (c) X-ray and Radium.
      (d) Electric spark and lightning.
   5. Gunpowder and dynamite.

C. Immediate or "First Aid" treatment.

D. Subsequent Therapy and Prevention of Complications.

E. Treatment of Sequellae.
   1. Medical.
   2. Surgical, including plastic procedures and corneal grafting.

COURSE 211

Room 705 **Periods Th.-2; F-2**

ALBERT L. BROWN, M.D.
Cincinnati, Ohio

Vaccine and Serum Therapy in Ophthalmology

The purpose of vaccine therapy is to increase specific resistance against a known organism. Therefore, it is obvious that the vaccine should contain the organism to which the increased immunity is desired. The vaccine may be obtained from the patient or from a stock vaccine if the exciting agent is fairly obvious. Serum therapy of the nonspecific variety is used to produce fever and antibodies in the blood. Of course, sera may be used specifically or nonspecifically. There are various uses including that of typhoid vaccine which will be discussed. The problem of the use of tuberculin is still not a settled issue, but is definitely a method of treatment that must be considered.

COURSE 212

Room 711 **Periods Th.-3; F-3**

A. B. BRUNER, M.D.
Cleveland, Ohio

Visual Aids

Various types of visual aids that are being used and the possibilities of helping the patient with other means than glasses will be discussed.

COURSE 213

Room 705 **Periods T-3; F-3**

EDWARD P. BURCH, M.D.
St. Paul, Minn.

Anesthesia in Ophthalmology

This course will stress the importance of safe, effective local and general anesthetics in the preparation of patients for ophthalmic surgery. The discussion will include a description of the more commonly employed drugs, indications and contraindications for their use and the various technics and methods of their administration.

COURSE 214

Room 710 Periods Th.-1; F-1

FRANK E. BURCH, M.D.
St. Paul, Minn.

Glaucoma — Choice of Surgery

Procedures favored by the author in the various manifestations of glaucoma will be described. The objectives desired in sclerotomy, sclerectomy, iris inclusions, cyclodialysis, cyclodiathermy, optico-ciliary neurectomy and trabeculotomy will be considered. Operations for relief of tension in glaucoma caused by intumescent lens, venous thrombosis, iridocyclitis and when cataract and other conditions complicate glaucoma will be discussed.

COURSE 215

Room 713 Periods T-1; W-1

FRANK D. CARROLL, M.D.
New York, N. Y.

Optic Neuritis

In this lecture will be discussed all the inflammations of the optic nerve — the differential diagnosis, etiology and recent advances in treatment. A practical method for determining the possible causes of optic nerve pathology will be presented, and consideration will be given to the toxic amblyopias, especially those which may have become more frequent and important during World War II.

COURSE 216

Room 711 Periods T-3; W-3

V. G. CASTEN, M.D.
Boston, Mass.

Practical Perimetry

COURSE 217

Room 733 Periods T-2; W-2

C. P. CLARK, M.D.
Indianapolis, Indiana

Evaluation of the Possibilities in Cataract Surgery

Consideration will be given to the operative and postoperative complications and problems which may be encountered in cataract surgery.

COURSE 218

Room 711 Periods T-2; W-2

J. C. COPELAND
Chicago, Illinois
BY INVITATION

Streak Retinoscopy

The method of using the Streak Retinoscope will be demonstrated by means of a laboratory arrangement whereby each member of the group will be provided with a Retinoscope, Test Lenses, and a Schematic Eye.

The following outline describes the steps of the demonstration:

1. Determination of the neutral point.
2. Revealing low astigmatic errors.
3. Locating the zone of the Astigmatic Band.
4. Determining the power of the cylinder.
5. Estimating the type and degree of error without lenses.
6 "Guide Angle" technic, in refining axis position.
7. Plus cylinder procedure.

COURSE 219

Room 728 Periods T-3; W-3

SYBIL COX, A.M.
Cleveland, Ohio
BY INVITATION

The Causes, Effects and Remedying of Reading Difficulties

The lecturer will discuss the most common causes of reading disability including eye difficulties; the unfortunate effects of non-reading on the child's personality and behavior; and the recent trends in remedial instruction.

COURSE 220

Room 754 Periods Th.-1; F-1

WILLIAM H. CRISP, M.D.
Denver, Colo.

Cross Cylinders

1. Principles and technic of cross cylinders for astigmatic axis and strength.
2. Sources of error in testing for strength of cylinder.
3. Coordination of astigmatic tests with use of fogging method.
4 Use of strong cross cylinders for amblyopic eyes.

5. Relation between cross cylinders and astigmatic dials as to the cylinder axis and strength.

COURSE 221

Room 705 **Periods W-3; Th.-3**

NORMAN L. CUTLER, M.D.
Wilmington, Delaware

Surgery of the Lid

A review of reparative procedures in plastic surgery of the lids with presentation of some procedures which were used at an army general hospital eye center. Illustrated with drawings and pre- and postoperative photographs.

COURSE 222

Room 712 **Periods T-3; W-3**

RAY K. DAILY, M.D.
Houston, Texas

Physical Therapy in Ophthalmology

How will the ophthalmologist meet the present-day trend towards the wider employment of physio-therapy as a part of a well-rounded general therapy?

Will this trend lead to the specialization of some ophthalmologists in physiotherapy, or will it result in the integration of the various physiotherapeutic procedures in the routine daily practice of ophthalmology?

The successful utilization of diathermy, galvanism and iontophoresis as a part of routine office procedures requires a knowledge of the technical side of the subject. The field of usefulness of physiotherapy in medical and surgical ophthalmology will be briefly sketched, and the various procedures for practical application will be illustrated and described in detail.

COURSE 223

Room 706 **Periods Th.-1; F-1**

WINDSOR S. DAVIES, M.D.
Detroit, Mich.

Optic Discs—Comparison of Clinical and Pathologic Changes

This course shall consist of the study of various lesions involving the optic nerve head. The pathologic changes occurring in these lesions will be considered and a correlation made between the clinical and pathologic findings. Appropriate treatment will be discussed.

COURSE 224

Room 710 **Periods Th.-2; F-2**

LOUISE FARWELL DAVIS
Evanston, Ill.
BY INVITATION

Psychology of Reading Disturbances

Characteristics of excellent and poor readers will be discussed, followed by experimental findings of (1) detailed tests of visual skills given to children enrolled at National College of Education, Evanston, Illinois, from senior kindergarten to eighth grade, (2) a first grade group who had a rapid recognition program, (3) a senior kindergarten class who experienced a different type of recognition program. Case records will be included.

COURSE 225

Room 728 **Period Th.-1**

WATSON GAILEY, M.D.
Bloomington, Illinois

Complications in Cataract Surgery and Their Treatment

It is seldom difficult for the ophthalmic surgeon to recognize complications accompanying cataract surgery, but the management of these complications in a great many instances taxes his ingenuity to the limit.

A great many problems are self-evident before surgery is attempted and the surgeon has ample chance to plan his campaign, but unfortunately, the greater number of serious mishaps arise during surgery and require quick, logical, decisive action. The discussion will include the incidence and management of complications which arise in the handling of cataract cases.

COURSE 226

Room 726 **Periods W-1; Th-.3**

J. CONRAD GEMEROY, M.D.
Detroit, Michigan

External Diseases of the Eye

This lecture on external eye diseases is illustrated in color and shows usual and some unusual diseases of the lids, conjunctiva and cornea with discussion of

their diagnosis and treatment. The lecture will be illustrated throughout with Kodachrome slides.

COURSE 227

Room 726 **Period F-3**

J. CONRAD GEMEROY, M.D.
Detroit, Michigan

Anterior Segment Photography of the Eye

This is a discussion of the method the author uses to take colored photographs of the anterior segment of the eye. The camera used, how almost any camera can be adapted to do the same; the lighting, exposure time, etc. The easy slip from single pictures to stereoscopic pictures in color. Many pictures in color will be used to show reasons for failures versus good pictures.

COURSE 228

Room 713 **Periods T-2; W-2**

GLEN GREGORY GIBSON, M.D.
Philadelphia, Pa.

End Results in Retinal Detachment

The surgeon who encounters a retinal detachment has a diagnostic, a surgical and a moral obligation, all of which have a direct connection with the end result of these cases. The most important single diagnostic obligation is to exclude tumor as a cause of the detachment. The surgical obligation is to operate on these eyes even though the history and physical findings indicate that the end result will be unsatisfactory; the most important exceptions being those detachments which are due to retinitis proliferans, and those which have been present for a long time. The moral obligation is to tell the patient of the six groups of end results in these cases. The six groups are: (1) complete reattachments with preservation of useful vision, (2) complete reattachment with poor vision (central scotoma), (3) partial reattachment most probably with poor vision, (4) complete detachment with vision nil, (5) secondary glaucoma with possible loss of the globe, (6) phthisis bulbi.

The importance of discussing these untoward possible end results is two-fold. The first is to protect the patient from the unpleasant disappointment if his hopes have been permitted to go too high and the second is to protect the surgeon from being blamed if the disease process continues on to destruction of the eye in spite of the operation. This objective is most easily attained by a brief sketch of the history of retinal detachment by stating that prior to 15 years ago the end results of retinal detachment were almost 100 per cent failure.

The newer trends of surgical treatment which attempt to avoid such untoward results as choroidal hemorrhage and hence tend to produce poorer end results, and newer ways of obtaining attachment will be discussed.

The present statistical approach to the end results of retinal detachment will be depreciated. While admittedly the surgical objective is complete attachment of the retina, this should not be the sole criterion of success. Neither should the amount of central vision be the criterion of success. Rather than the standard textbook criteria, the real factor which determines the degree of success of the undertaking, is what service has been rendered to the patient. If something definite has been accomplished by the treatment, such as: increase in visual fields, improvement in vision, terminating a progressive deterioration of the eye, the end result is better than without the operation and these cases should be listed as successful end results. Apropos of this point is the failure of surgeons to take credit for many cases now listed as failures which are actually successes, in which a partial attachment is attained and thereby such possible complications as secondary glaucoma and phthisis bulbi are prevented.

Illustrative cases which represent the various types of end results will be presented.

COURSE 229

Room 713 **Periods Th.-1; F-1**

HAROLD GIFFORD, M.D.
Omaha, Nebraska

Surgery of the Lacrimal Apparatus

This course will contain a brief review of the anatomy and physiology of the lacrimal apparatus. The problem of too few tears as well as too many tears, and infection of the lacrimal sac will be discussed. The surgical and medical treatment will be outlined. The common op-

erations on the lacrimal sac will be discussed, and a detailed description of the technic of transplantation of the lacrimal sac will be given.

Slides and moving pictures will be used to illustrate the technic of this operation.

COURSE 230

Room 716 Periods T-3; Th.-3

TRYGVE GUNDERSEN, M.D.

Boston, Mass.

Atypical Corneal Lesions

Diseases and conditions of the cornea will be discussed in relation to recent advances in bacteriology, pathology and physiology. Particular attention will be given to herpes simplex and its complications: herpes zoster, keratitis sicca, filamentary keratitis, keratitis epithelialis. Effect of anesthetics. Present concepts of corneal vascularization, cause, effect, and treatment.

COURSE 231

Room 713 Pereriods T-3; W--3

F. HERBERT HAESSLER, M.D.

Milwaukee, Wisconsin

Ocular Tuberculosis

Tuberculosis of the eye will be discussed from the point of view of the practicing ophthalmologist. Special emphasis will be given to an analysis of the processes of infection and resistance, to immunity and allergy. An understanding of these processes forms the basis for a rational evaluation of symptoms in diagnosis and treatment.

COURSES 232

Room 733 Periods T-1; W-1

PARKER HEATH, M.D.

Detroit, Mich.

Chemotherapy

This course will be a discussion of chemotherapy in general and as a treatment in certain diseases particularly common in ophthalmology. Various chemical and antibiotic agents will be commented upon. Some possible points of action will be outlined. Methods of administration will be considered. Certain hazards and precautions, necessary and important, will be stressed. The treatment of some ocular diseases will be described.

COURSE 233

Room 716 Periods W-2; Th.-2

WENDELL L. HUGHES, M.D.

Hempstead, N. Y.

Hyperphoria

1. Vertical errors.
   (a) A discussion of heterophorias and heterotropias in which there is a vertical component will be discussed, including differential diagnosis of individual muscle errors and their treatment.

   Course will be limited to discussion of practical methods of diagnosis and treatment that can be applied to every-day ophthalmological practice.
2. Comitant and noncomitant errors.
3. Use of various types of lenses and occluders for both total occlusion and for occlusion of part of the field, including the use of partially frosted glasses.

COURSE 234

Room 716 Period F-2

WENDELL L. HUGHES, M.D.

Hempstead, N. Y.

Photography — Motion Pictures

A brief outline of some of the apparatus needed to take satisfactory pictures of conditions and procedures in ophthalmology.

A discussion of methods of titling will also be conducted.

Properly taken motion pictures are very valuable:

a. In teaching:
   1. Undergraduates and graduates new technics and classical technics. The details of operative technic can be shown in full to as large a group as desired in just as complete a manner as might be given to one person standing directly at the side of the operator.

      The film can be shown repeatedly to review all the details. The clinical appearance or unusual lesions can also be shown in such a way as to impress the details upon those viewing the picture.

COURSE 235

Room 715 **Periods T-3; W-3**

S. RODMAN IRVINE, M.D.
Beverly Hills, Calif.

Manifest Refraction

Routine method of doing manifest refraction without cycloplegic.

Advantage and disadvantage of fogging; quick check for astigmatism with cross cylinder; diagram of conoid of Sturm showing position of retina in hyperopic, mixed, and myopic astigmatism; use of astigmatic dials; special procedures in cases with low visual acuity; correction of high errors, aphakic eye, and high myopes.

Reproducibility of refraction.

COURSE 236

Room 726 **Periods T-1; W-1**

HAROLD H. JOY, M.D.
Syracuse, New York

The Importance of the Pupil in Diagnosis

The aim of this conference is to emphasize the importance of careful examination of the pupils and to point out the significance of pupillary changes occurring in ocular, intracranial, systemic, neurological and congenital affections. While the more rare conditions are included, chief consideration is given those which are of practical use to the ophthalmologist.

Discussion will include:

1. The anatomy and physiology of the sphincter and dilator muscles and the reflex structures, including the sympathetic and parasympathetic systems.

2. The normal pupil and its variations as to size, shape, contour, color, position and motility.

3. Factors influencing the size of the normal pupil.

4. The pupillary reflexes and the technic for best determining them.

5. Affections of the pupillary light reflex arc.

6. Affections of the dilator tract.

7. Discussion of pupillary disturbances and their etiological relationship with special reference to:

Argyll Robertson pupils; tonic pupils (Adie's Syndrome), ophthalmoplegia interna, hemianopic paralysis, amaurotic paralysis, spastic and paralytic mydriasis and miosis, anisocoria and irregularity of contour, hippus, paradoxical reflex.

COURSE 237

Room 711 **Periods Th.-2; F-2**

DEWEY KATZ, M.D.
Hartford, Conn.

Interpretation of Field Defects as an Aid in the Localization of Cerebral Pathology

Field defects when properly analyzed will only indicate, and that with a remarkable degree of accuracy, the area in the visual pathway which has become involved by the pathologic process present. In and of themselves field defects resulting from intracranial pathology usually give no indication as to the origin or nature of the lesion present.

When the involved area in the visual pathway is known and to this is added other ophthalmologic factors such as the rate of development of the field defects, the appearance of the nerve heads and the reaction of the pupils, the nature of the pathologic process can be definitely diagnosed in some instances.

With an accurate knowledge of the components of the visual pathway and their course from the retina to the occipital cortex it becomes relatively simple to analyze the various types of field defects which are typical of the segment of the visual pathway involved.

The field defects resulting from intracranial pathology fall into one of five main categories depending on the site of involvement of the visual pathway. The delimiting zones are fairly clear cut anatomically.

COURSE 238

Room 727 **Periods T-1; W-1**

JOHN E. L. KEYES, M.D.
Shaker Heights, Ohio

Interpretation of Clinical and Experimental Retinal Vascular Disease

The object of this study is to correlate the clinical ophthalmoscopic picture of retinal vascular disease with the associated pathologic process. An ophthal-

mologist who can visualize in anatomical terms the extent of local vascular disease in an eye is better qualified to make a prognosis.

Most of the visible arterial vascular tree of the retina is arteriolar. Arteriolar disease is segmental. An arteriole does not develop disease of its wall in a uniform manner. Serial sections of a diseased vessel often show extensive damage in areas of close propinquity to a zone of minor pathologic changes.

Such a vessel viewed through an ophthalmoscope will present considerable variation in the intensity and width of its central light reflex in the presence of early disease. At a later stage, definite segmental narrowing of the arteriole can be noted. The lumen of such vessels is narrowed locally and the volume of the blood carried is reduced accordingly. Arteriolar disease of this type does not resolve, but is progressive.

The appearance of a retinal artery in a state of spasm is well known. The narrowing of the affected vessel may be general or localized. One vessel may be involved or the whole arterial tree show varying degrees of involvement. The spasm may be transitory or permanent and pass over into sclerosis. Many vessels with transitory spasm appear normal after the attack has passed. Repeated observation of such a spastic vessel will ultimately show evidence of segmented disease. The localized spasm and edema of an artery seen in toxemia of pregnancy may resolve completely if the patient is not a hypertensive person. Vessels with general permanent spasm become sclerosed.

Both arteries and veins bordered by parallel white streaks are seen in retinal vascular disease. Such a vessel frequently develops a white sheath or covering. These are not silver wire vessels but examples of perivasculitis. A silver wire vessel has extreme sclerosis of its wall, is smaller than it was originally, and the light reflex is keen. A vessel with a white sheath appears wider than it was originally and the usual central light reflex is soft, partly obscured or replaced by a soft white patchy coating. Microscopically the changes are mostly in the wall of the white wire vessel. The vessel lumen is reduced to a minimum or closed; adventitial proliferation and edema predominate in sheathed vessels; medial and intimal disease is usually present also, but most of these vessels are patent and carry blood.

The obscuring of an underlying vein at an arteriovenous crossing is secondary to loss of transparency of the overlying artery and chiefly due to proliferation of the adventitial tissue binding the two vessels together. Further progress of this process pulls the artery with greater blood pressure against the vein with lower blood pressure. This mechanism alone will cause indentation of the vein. Thickening of the media and intima of an artery is usually at the expense of the vessel's lumen, but will add to the extent of disturbance at an arteriovenous crossing. Obscuring of the vein at crossings is often physiological and due to excessive connective tissue. The sheathing seen on some vessels, on and slightly beyond the disc in healthy eyes, is congenital.

It is not within the scope of this communication to discuss retinopathies associated with disease of the retinal blood vessels.

COURSE 239

Room 727 **Periods T-3; W-3**

JOHN E. L. KEYES, M.D.
Shaker Heights, Ohio

An Appraisal of Penicillin in Ophthalmology

The employment of penicillin in ophthalmology is discussed from the standpoint of the ophthalmologist. The drug is briefly described. Pathogenic organisms usually encountered in eye diseases and sensitive to penicillin are enumerated. Methods of administration and dosage of penicillin in eye diseases are described in detail. Therapeutic suggestions are made in certain diseases. Comment is made on allergy to penicillin. Conditions unsuitable for penicillin therapy are listed. The most common causes for failure of penicillin therapy are described.

COURSE 240

Room 728 **Period W-2**

DANIEL B. KIRBY, M.D.
New York, N. Y.

Traumatic and Complicated Cataract—Treatment

The treatment of traumatic cataract from the point of view of preventing in-

carceration of the iris and posttraumatic complications will be discussed. The complications of cataract surgery will be dealt with from the point of view of prevention and occurrence whenever possible. The diagnosis of these complications, the best methods as well as the most opportune time to treat them will be considered.

COURSE 241

Room 715 **Period F-1**

FERDINAND L. P. KOCH, M.D.
New York, N. Y.

Photography — Fundus

The technic of photographing the internal structures of the posterior segment of the living human eye has not changed during the war years except for a very few minor modifications concerned with the use of filters and of film adapters. The Nordenson retinal camera remains the most practical and is the apparatus of choice whether the model used is the carbon arc type or the Nitra lamp model. All but the earliest instruments manufactured are reflex-free. All models may be installed to operate on either continuous or on alternating current; the former is preferable. The amperage required varies from 5 to 9 and the intensity of illumination from 600 to 900 foot-candle power. Experience determines empirically how best to adjust proportionately the amperage and illumination to the estimation of the general degree of pigmentation of the area to be photographed. This also entails an elementary knowledge of the construction of the apparatus in order that all focussing adjustments may be made efficiently to avoid fatigue on the part of the patient.

Color film always is preferable to black and white even if the latter is obtainable in the reversible type. Kodachrome daylight film affords the best results with the carbon arc apparatus since the latter fairly well simulates sunlight in quality while the Type A, or artificial, film is best for use with the Nitra lamp models. Preservation of the film is efficiently accomplished by converting the transparencies obtained into lantern slide form for projection. Little space is necessary for storage, deterioration is minimal and the slides always are ready for instant use. A simple card file system will prove useful.

Ophthalmoscopic examination prior to photography is essential in view of the foregoing. Such study tends to sharpen the appreciation of the examiner that nothing visualizable within the fundi is without significance whether the subject is in health or is ill. The infinite variety of minute variations from the "normal", when contrasted with our textbook impressions, of the forms of the optic nervehead alone are astounding while the all-important vasculature and its ramifications of change reward study of their variety with a truer appreciation of the intricate local and systemic vascular physiology involved. Such continued observations ultimately eventuate in the greater satisfaction that ensues when the observer finds himself able to view the formerly unexplained lesions of bacterial and gerontologic origin with a sensation of intelligent clarity and not merely as a "picture" with an epinomic appellation; in addition, the several classifications employed to distinguish certain diseases tend to become more simplified.

As many slides as time will permit will be shown to illustrate the foregoing in this course.

COURSE 242

Room 713 **Periods Th.-3; F-3**

JAMES E. LEBENSOHN, M.D.
Chicago, Ill.

Visual Physiology

The discussion will cover the visual pathway and the photo-motor reflex; the nature of photophobia; factors influencing dark adaptation, visual interpretation, and color perception; illumination and the hygiene of reading; analysis of asthenopia; significance of ocular nystagmus; and will conclude with various interrelations between the eye and body and vice versa.

COURSE 243

Room 728 **Periods T-1; W-1**

ALBERT N. LEMOINE, M.D.
Kansas City, Mo.

Allergies in Ophthalmology

Discussion of types of patients having allergy.

Allergy of the lids conjunctiva.

Cornea, lens, uveal tract.

Retina and optic nerve. Treatment both local and general, including results obtained with the new treatment, Ethylene Disulphonate.

COURSE 244

Room 721 **Period W-1**

CECIL LEPARD, M.D.
Detroit, Mich.

Juvenile Cataract — Treatment:
Soft Cataract — Treatment

1. Classification of types of juvenile cataract.
2. Hereditary factors and the relation to other anomalies.
3. Early surgical treatment is recommended.
4. Details of procedure and management of postoperative complications.

1. The etiology of soft cataract should be determined where possible.
2. Detailed surgical procedure of those showing posterior adhesions of the iris to the anterior capsule.
3. Intracapsular extraction with round pupil is recommended for those without posterior adhesions.

COURSE 245

Room 752 **Period T-2**

WALTER I. LILLIE, M.D.
Philadelphia, Pa.

Pre-Chiasmal Syndrome

The presentation of the clinical significance of pre-chiasmal syndromes will cover those conditions produced by inflammatory, vascular and neoplastic lesions. The clinical cause and history and the necessary ophthalmological findings to make a definite diagnosis will be stressed and the different syndromes differentiated.

COURSE 246

Room 752 **Period W-2**

WALTER I. LILLIE, M.D.
Philadelphia, Pa.

Chiasmal Syndrome

Inasmuch as chiasmal syndromes produce rather definite but bizarre ophthalmological changes, it is necessary to better understand the underlying pathology so that a definite diagnosis can be made. Again a differentiation of inflammatory, vascular and neoplastic lesions will be made and the type of treatment necessary for each will be stressed. This presentation is supported by many lantern slides to show the bizarre perimetric field changes.

COURSE 247

Room 752 **Period Th.-2**

WALTER I. LILLIE, M.D.
Philadelphia, Pa.

Optic Tract and Radiation Syndromes

This presentation will show from the visual field changes, the ease in differentiating field changes produced by prechiasmal and chiasmal lesions, inasmuch as in this group the visual field changes are symmetrical and do not interfere with central visual acuity. The neurologic conditions will be differentiated, so that one can locate the site of the lesion, correlating it with the visual field changes.

COURSE 248

Room 752 **Period F-2**

WALTER I. LILLIE, M.D.
Philadelphia, Pa.

Diplopia

In presenting the clinical significance of Diplopia the third, fourth and sixth nerves are taken up separately, but combined with neurological changes that are associated with them when the midbrain and pons are affected intramedullarily. The extramedullary syndromes are differentiated. Again the classic syndromes produced by inflammatory, vascular and neoplastic lesions will be stressed.

COURSE 249

Room 734 **Period T-3**

RALPH I. LLOYD, M.D.
Brooklyn, N. Y.

Hereditary Fundus Lesions

These are either (a) congenital defects, (b) abiotrophies, (c) transmission of infection from parent to child.

The first group includes coloboma of optic nerve and vicinity, conus with my-

opia, extra-papillary coloboma, albinism, choroideremia, angiomatosis retinae, and ablatio falciformis congenitus.

The second group includes pigmentary retinitis, gyrate atrophy of choroid and retinae, progressive choroidal atrophy, angioid stripes, hereditary optic atrophy, hereditary macular degeneration, arachnodactylia and choroideremia. Limited viability of highly specialized tissues is common to this group.

Glioma is at times hereditary but more often congenital. Inherited chorioretinitis is probably due to infection of the child from the parent.

COURSE 250

Room 734 **Period W-3**

RALPH I. LLOYD, M.D.
Brooklyn, N. Y.

Macular Lesions

MALFORMATIONS. Persistent Optic Nerve Sheath. Extra-Papillary Coloboma. Albinism.

VASCULAR LESIONS. Obstruction of central artery. Sclerosis and atrophy after interruption of circulation. Pre-Retinal Oedema. Minute anuerysms. Subhyaloid hemorrhage.

TUMOR. Retinoblastoma.

MYOPIA. Macular degeneration. Fuchs' spot.

TRAUMA. Rupture of choroid. Late macular degeneration. Holes. Hemorrhage and its effects. (Direct) Compression of Chest and Venous Stasis. (Indirect)

HEREDITY. Hereditary Macular Degeneration.

a. Colloid Degeneration of Bruch's Membrane.
b. Retinitis Punctate Albescens.
   a. Retinitis Punctata Albescens.
   b. Fundus Albipunctatus cum hemeralopia congenita.
c. Infantile and juvenile maculocerebral degeneration.
d. Macular degeneration with pigment reaction and atrophy.

Retinitis pigmentosa (Irregular types) and Choroideremia.

Progressive Choroidal Atrophy.

Angioid Stripes.

Angimatosis Retinae.

GENERAL DISEASE. Syphilis. Tuberculosis. Diabetes. Cardio-Vascular-Renal Syndromes. Senility and Pre-Senility.

a. Choroidal Atrophy and vessel sclerosis.
b. Pseudo-tumor and macular degeneration.
c. Holes.

COURSE 251

Room 713 **Periods Th.-2; F-2**

A. W. McALESTER, III, M.D.
Kansas City, Missouri

Pigmentary Retinal Changes Etiology and Treatment

Pigmentation of the retina briefly is divided into (1) Congenital, (2) Primary, such as retinitis pigmentosa, Tay-Sachs disease, et cetera, and (3) Secondary, as seen in retinal degeneration, inflammatory and traumatic conditions. Pigmentation seen following macular retinitis in Naval personnel serving in the South Pacific, as well as commotio retinae associated with blast will be given special consideration.

Fundus pictures will be used for demonstration purposes.

COURSE 252

Room 714 **Periods T-3; F-3**

AUREL E. MANGOLD
New York, N. Y.
BY INVITATION

The Optician's Part in the Fitting of Glasses

This discussion will stress the following subjects:

1. The necessity of analyzing the prescription so that the glasses will give the maximum comfort and efficiency.
2. Importance of interpupillary distances.
   a. Near.
   b. Far.
3. Compensation for vertical imbalance.
4. The effect of vertex distance.
5. Lens form in relationship to
   a. Iseikonic prescriptions
   b. Cataract prescriptions
   c. High dioptric prescriptions
6. Proper selection of bifocals.
7. Colored lenses.
8. Coated lenses.
9. Errors made in the manufacturing of glasses—their correction explained.

10. Suggested office procedure for the examination of a finished pair of glasses.
11. Methods of determining causes of patients' complaints with completed glasses.

COURSE 253

Room 711 Periods W-1; F-1

SAMUEL J. MEYER, M.D.
Chicago, Ill.

Retinal Detachment

The lectures will include presenting available methods for localization of a retinal tear and the various methods of operative treatment which will include both flat and perforating diathermy procedures.

COURSE 254

Room 721 Periods T-3; W-3

PAUL G. MOORE, M.D.
Cleveland, Ohio
and
MERTHYN A. THOMAS, M.D.
Cleveland, Ohio
BY INVITATION

The Management of Intraocular Foreign Bodies

A discussion of the importance of these cases and their treatment in an effort to prevent loss of visual acuity and earning power.

The importance of careful history taking in preventing later litigation.

The history of the accident may be the only lead in discovering an intraocular foreign body.

Minor and superficial foreign bodies and the prevention of scar formation.

To bandage or not to bandage.

X-ray examinations and their technic.

Intraocular foreign bodies, their removal and the end results.

COURSE 255

Room 744 Periods Th.-3; F-3

W. HOWARD MORRISON, M.D.
Omaha, Nebraska

Malingering

Increased employment in hazardous industry causes an increase in real and simulated injuries to the visual apparatus. Reliable, rapid and easily performed tests for malingering are therefore extremely important.

The types of malingerers will be outlined and hysteria which may be confused with malingering is to be discussed.

An evaluation of the numerous tests for malingering will be made and those tests especially suitable for present day practice will be demonstrated.

COURSE 256

Room 714 Periods W-3; Th.-3

R. TOWNLEY PATON, M.D.
New York, N. Y.

Corneal Surgery

A practical demonstration will be given of the corneal grafting operation illustrating the various commonly employed procedures. Considerable attention will be given to the indications, contraindications, and expected results in carefully selected cases. Lantern slides and moving pictures will be used to clarify these points.

COURSE 257

Room 714 Periods Th.-1; F-1

M. HAYWARD POST, M.D.
St. Louis, Mo.

The Care of Eye Surgical Instruments

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1. The proper care of instruments when not in use.
2. The correct methods of sterilizing instruments for operation without injury to edges or temper.
3. The maintenance of sterility throughout the operation.

The procedures and solutions for obtaining these results, and the common modes of contamination, will be discussed.

COURSE 258

Room 734 Periods T-1; W-1; F-1

JAMES J. REGAN, M.D.
Boston, Mass.

Various Tests for Astigmatism

The first part of the hour will be spent describing the various objective and subjective methods for measuring astigmatism.

The latter part of the hour will be spent demonstrating subjective methods

for measuring astigmatism without use of cycloplegics.

COURSE 259

Room 720 **Periods Th.-1; F-1**

SHALER A. RICHARDSON, M.D.
Jacksonville, Fla.

Office Management

This course will be a discussion of office arrangement and management. An effort has been made to obtain information from numerous ophthalmologists in all sections of the country as to their methods of conducting office practice. This has been compiled and will be presented.

A portion of the period will be set aside for round table discussion of office administration.

COURSE 260

Room 724 **Periods W-3; Th.-3**

C. W. RUTHERFORD, M.D.
Indianapolis, Indiana

Myopia

Myopia of higher degrees, or progressive in amount, or accompanied by changes in the fundus will be discussed in relation to the various theories of etiology that have been proposed to account for the phenomena. The presentation will include consideration of treatment and general management of patients.

COURSE 261

Room 744 **Periods T-3; W-3**

RALPH O. RYCHENER
Memphis, Tenn.

The Lacrimal Apparatus

This course will present a general review of the troublesome conditions of the lacrimal apparatus met in the course of a general clinical practice. The various stages of lacrimal sac obstruction, ranging from congenital stenosis and diverticula to acute and chronic dacryocystitis, will be illustrated with lantern slides, and the modern conception of surgical correction will be demonstrated by all of the accepted technics.

COURSE 262

Room 715 **Periods Th.-2; F-2**

HAROLD G. SCHEIE, M.D.
Philadelphia, Pa.

Injury to Iris and Ciliary Body

Brief review of surgical anatomy of ciliary body and iris. Classification of injuries to iris and ciliary body. Treatment, immediate and definitive. Complications to be expected. Presentation of specific injuries encountered in wounded soldiers.

COURSE 263

Room 715 **Periods Th.-3; F-3**

RICHARD G. SCOBEE, M.D.
St. Louis, Mo.

Heterophoria: Its Significance and Interpretation

After a brief consideration of the known portions of the etiology of heterophoria, the variations in heterophoria measurements among different tests on the same patient will be discussed. The significance of lateral heterophoria will then be considered.

COURSE 264

Room 710 **Periods T-3; Th.-3**

CHARLES SHEARD, Ph.D.
Rochester, Minn.

BY INVITATION

The Eye: Physical and Optical Data and Considerations

1. **Physical.** Light and radiant energy. Transmission and absorption of light (infrared, visible and ultraviolet) by ocular media.
2. **Optical.** Indices of refraction, radii of curvatures, thickness and other data and properties of the various ocular surfaces and media. Refraction by curved surfaces and applications to the optics of the eye as a system; cardinal points; schematic and reduced eyes. Combined dioptric system of an eye and lens.
3. **Retinal Images.** Diffraction, chromatic and spherical aberrations, resolving power. Factors affecting position and size of ocular images.
4. **Clinical Significance** of these data and considerations.

COURSE 265

Room 714 Periods W 2; Th.-2

JAMES S. SHIPMAN, M.D.
Philadelphia, Pa.
and Camden, N. J.

Hypermetropia — Methods of Handling

A. Hypermetropia important for the following reasons:
   1. A common, in fact almost universal, finding in the eyes of infants at birth.
   2. A definite factor in convergent squint.
   3. A most frequent cause of eye strain.
   4. Is commonly associated with presbyopia and if uncorrected hastens its manifestation.
   5. It is always a problem in aphakia.

B. Some of the causes of Hypermetropia:
   1. Axial the cause in the majority of cases.
   2. The curvature of the cornea.
   3. The refractive index of the media and the effects of changes in this.
   4. Changes in the position of the lens which may be congenital, traumatic, or post surgical.

C. "Optical principles of emmetropia and hypermetropia" as shown with diagrams.

D. Relationship to accommodation and convergence.

E. A system suggested for examination of eyes prior to cycloplegia.

F. Cycloplegia and cycloplegics: Atropine, homatropine, paredrine, etc. Their use and value.

G. Retinoscopy, the most reliable and accurate means of arriving at the refractive error in a hypermetropic eye.

H. Various aids and refinements to refraction: Fogging, cross cylinders, astigmatic charts, bichrome test, ophthalmometer, etc.

I. Post cycloplegic test, its value and use.

J. Aphakia with its demands for accuracy and detail.

K. The necessity for checking glasses after patient has secured them.

L. Grief cases and some practical points in handling them.

COURSE 266

Room 706 Periods T-1; W-1

JAMES W. SMITH, M.D.
New York, N. Y.

Practical Office Pointers

Topics considered in the course are consultation room principles, aids in diagnosis, treatment and technics used in examinations and refractions.

From personal office experiences the lecturer will discuss some important diagnostic and therapeutic pitfalls in ophthalmic practice that should be recognized and avoided.

COURSE 267

Room 714 Periods T-2; F-2

DANIEL SNYDACKER, M.D.
Chicago, Ill.

Treatment of the Vertical Phorias

I. Brief review of classification and diagnosis of vertical phorias.
II. Therapy:
   A. Use of prisms.
   B. Orthoptics.
   C. Surgery.
III. Discussion of methods and criteria of satisfactory results.

COURSE 268

Room 711 Periods T-1; Th.-1

SCOTT STERLING, A.B.
Rochester, N. Y.

BY INVITATION

Lens — Types

In this course a review will be given of the significant optical characteristics of the various types of single vision and bifocal lenses, with a brief discussion of the advantages and disadvantages of each. Emphasis will be placed upon the practical problem of establishing criteria by which the ophthalmologist may select suitable lens types for specific cases.

COURSE 269

Room 726 Periods T-2; W-2

GEORGE H. STINE, M.D.
Colorado Springs, Colo.

Retinal Detachment: Differential Diagnosis and Intraocular Localization

The theoretical aspects of retinal localization will be considered and practical ap-

plication will be described and demonstrated. The various methods, such as the method of disc diameters, dioptric elevation, transillumination, and perimetric methods, especially that devised by the lecturer, will be described and illustrated. Recent advances in correcting for meridian as well as limbus distance shift will be discussed, all of which add to precision in practical application.

COURSE 270

Room 728 **Periods T-2; Th.-2**

GILBERT C. STRUBLE, LT. COL., M.C.
Phoenixville, Pennsylvania

Intraocular Foreign Bodies

A resume of the experiences of Army ophthalmologists with intraocular foreign bodies in World War II will be presented.

Civilian ophthalmologists will have occasion to see patients with ocular injuries caused by war missiles. Many of these have incurred single or multiple penetrations and perforations of one or both globes. A considerable number have suffered other co-existing ocular traumas in addition to those caused by the foreign body per se. This discussion will include a presentation of the mechanism of injury, the ballistics of modern high velocity war missiles and indirect ocular injury, together with an outline of the type of co-existing injury which may be expected in many of these cases. Old and new methods of localization of intraocular foreign bodies will be discussed. These will include experiences with the contact lens, the scleral marker procedure, oxygen injection, and Army experiences with the Berman Locator. The advantages and disadvantages of these various methods will be discussed together with factors which may produce errors using these methods. The surgical indications and technic of removal of magnetic foreign bodies from the cornea, conjunctiva, sclera, iris, anterior chamber, lens, posterior chamber, ciliary body, vitreous, choroid and retina will be discussed. The non-penetrating surgical technic for removal of magnetic particles from the posterior segment using the posterior approach (through the pars plana or choroid) will be discussed in detail from the conjunctivial incision to completion of the surgical operation. The results of experimental work using various sized metallic fragments placed in the posterior segment of the globe and removed using the non-penetrating technic will be presented. Postoperative complications and treatment will be discussed, including the prognosis of inaccessible foreign bodies, both magnetic and non-magnetic. The lecture will be illustrated with lantern slides and 16 mm. motion pictures in color showing the method of precise localization and removal advocated by the author.

COURSE 271

Room 727 **Periods T-2; F-2**

KENNETH C. SWAN, M.D.
Portland, Oregon

The Cycloplegias

The ocular effects of the various cycloplegic drugs as described and the clinical application discussed for routine of cycloplegic refraction and internal examination of the eye; selected combination of drugs are effective and cause the patient least discomfort; undesirable side effects are unduly prolonged. Visual disability may be further minimized by proper dosage.

COURSE 272

Room 734 **Periods T-2; W-2**

T. L. TERRY, M.D.
Boston, Massachusetts

Recent Trends in Some Developmental Ocular Anomalies

A lantern slide demonstration of abnormal developments related more to environmental than genetic disturbances, stressing particularly rubella cataracts and retrolental fibroplasia. The production of ocular defects in swine by Hale, and in rats by Warkany demonstrates how severe maternal vitamin A deficiencies early in pregnancy produce massive ocular defects.

COURSE 273

Room 721 **Periods Th.-1; F-1**

E. R. THOMAS, M.D.
Dayton, Ohio

The Diagnosis, Complications and Treatment of Diabetes and Blood Dyscrasia in Lesions of the Eye

Objective signs and subjective ocular symptoms in diabetic patients. Ocular

complications with regard to severity of the disease, age of the patient and duration of the disease. Discussion of diabetic cataract, retinosis, refractive changes, toxic amblyopia and rubeosis diabetica. Treatment of ocular complications; local and general medical care. Special preoperative and postoperative care of surgical diabetic patients.

COURSE 274

Room 706 Periods T-2; Th.-2

PHILLIPS THYGESON, M.D.
Menlo Park, Calif.

The Herpetic Viruses and Their Ocular Manifestations

Herpes simplex and herpes zoster viruses are immunologically unrelated viruses having especial affinity for the cornea but involving also at times the uveal tract, the conjunctiva, and the lids. Herpes simplex virus is the sole cause of dendritic keratitis. Both viruses may cause disciform keratitis and both are commonly associated with a diminished or absent corneal sensitivity. Herpes simplex infections are typically recurrent while zoster infections are not, but both may be precipitated by non-specific factors such as fever, arsenicals, etc. The various therapeutic measures such as iodinization, curettage, intravenous sodium iodide, smallpox vaccine, x-ray, and immune serum are evaluated.

COURSE 275

Room 716 Period Th.-3

ARNO E. TOWN, M.D.
New York, N. Y.

Difficulties with Contact Lens Fittings

The requisites for a good contact glass are given, and a description of the various technics used. The difficulties which arise in contact glass fitting are enumerated and methods for avoiding improperly fitted contact glasses are given.

COURSE 277

Room 744 Periods T-1; W-1

HAROLD F. WHALMAN, M.D.
Los Angeles, Calif.

Preparation of the Patient for Eye Surgery

Careful psychological preparation probably merits first consideration for the eye surgical patient. Physiologic habits deserve as much attention as physical condition. Evaluation of several significant laboratory findings is essential. Preoperative medication should be selected in accordance with the individual requirements. Finally the local preparation of the eye assures the necessary technical control of the subject during the operative and postoperative phase.

COURSE 278

Room 728 Period F-1

E. L. WHITNEY, M.D.
Detroit, Mich.

Enucleation and Evisceration

The indications for the removal of an eye govern the type of surgery to be followed. Where freedom of choice is allowed the cosmetic factor takes precedence. With World War II new interest and research for better cosmetic results have been stimulated. The following subjects will be discussed:

Reasons for removing an eye, type of surgery indicated, technics and surgical procedures, enucleation, evisceration, Problems in implants, material, migration of implants. Cosmetic values, enucleation with implant, evisceration with implant, implants in childhood, Ruedemann implant eye, Cutler implant with attachable prosthesis.

Colored slides, sketches, and movie will be used.

Individual Courses
OTOLARYNGOLOGY
1946

COURSE 301

Room 705 Periods M-4; W-4

REA E. ASHLEY, M.D.
San Francisco, Calif.

Desensitization Therapy in Chronic Sinusitis

1. Changing views regarding etiology of chronic sinusitis.
2. Importance of allergy as an etiological factor.
3. Present theories regarding allergic sensitivity.
4. Present theories regarding so-called desensitization.

5. Important for rhinologists to diagnose and treat own allergic patients.
   (a) Variously estimated 50 per cent to 90 per cent of all patients with nasal complaints are allergic.
   (b) Great majority of allergic patients with primary allergic manifestations have nasal symptoms.
   (c) Nasal mucosa is definite index to all other mucous membranes of the body and is most easily accessible to examination.
   (d) Rhinologist is frequently called upon to treat common head colds. Many of these have allergy and **not** infection as the primary causative factor.
   (e) The failure to differentiate between uncomplicated allergy and uncomplicated infection is in a large measure responsible for the frequent failure of treatment of both conditions with the result that much criticism has been justly made not only of nasal surgery, but also of allergic methods of treatment.
   (f) By close observation of the changes in the nasal mucous membrane following allergic treatment, the rhinologist is far more competent to judge the proper dosage and the progress of the patient than is the allergist.
   (g) Through the outstanding work of Hansel, the diagnosis and treatment of allergic rhinitis has been so simplified that it is no longer a tedious time-consuming procedure with doubtful and unsatisfactory results, but is definite as to diagnosis and positive as to results following treatment.

DIAGNOSIS

An accurate diagnosis of nasal allergy depends on a careful allergic history, evaluation of symptoms and a cytological examination of the nasal secretion.

Skin tests, radiographic, and bacteriologic examinations may be suggestive, but are of less importance.

1. Complete allergic history should include:
   (a) Inherited predisposition.
   (b) Other manifestations of allergy.
      (1) Urticaria
      (2) Hay fever
      (3) Migraine
      (4) Dermatitis
   (c) Relation to ingestion of food—foods not tolerated.
      (1) Marked rapid fluctuations in weight.
      (2) Abdominal distress following ingestion of certain foods.
      (3) Mental haziness.
      (4) Sudden and recurrent headaches.
      (5) Vertigo.
   (d) Occupational
      (1) Dust, Fumes.
      (2) Mattress and carpet.
      (3) Time of day.
      (Work or at home).
      (e) Environment.
         (1) Country, city, garden, or park.
      (f) Contacts.
         (1) Animal, birds, etc.

SYMPTOMS

The cardinal symptoms of nasal allergy are nasal obstruction, sneezing, and increased nasal secretion.

In complicated cases all of the cardinal symptoms may be absent. These are the cases where allergy is usually missed.

CYTOLOGY

Cytological examination should be made routinely where allergy is even suspected.

Repeated examinations may be necessary to definitely establish a diagnosis.

1. Methods of obtaining secretion.
2. Methods of staining secretion.
3. Evaluation of findings.

SKIN TESTS

In nasal allergy are not accurate, but when positive may be of value in outlining specific treatment.

EXAMINATION OF NASAL MUCOSA

In the past a pale and boggy appearing nasal mucosa was thought to be indicative of allergy, while a red engorged membrane indicated an infectious process.

1. In early states of allergy, mucous membrane may be red and inflamed.
2. Pale and boggy mucous membrane means chronicity.

TREATMENT

1. Consists in the elimination of the causative allergen. This is usually not possible.
   (a) Stop all nose drops.

(b) Dust-proof covers for pillows and mattress.
(c) Elimination of contact with animals and birds.
(d) Elimination diet when indicated.
(e) Removal of woolen rugs and ozite from sleeping quarters.
(f) Thorough cleaning of room with an oiled cloth.

2. Administration of Drugs:
(a) Relief of symptoms can frequently be promptly attained by the use of ephedrine with phenobarbital and atropine. (Prescription).
(b) Benadryl. Its uses and limitations.

DESENSITIZATION

The great majority of all nasal allergies are caused by inhalants.

If those specific allergens which cause hay fever are excluded, the most common inhalant causing nasal allergy is house dust.

The following method of desensitization to dust has proven satisfactory:

1. Patients treated according to symptoms and not according to skin tests.
2. Low dosage:
(a) Rational of low dosage treatment.
(b) Antigens. Where obtained — Dilutions.
(c) How to arrive at proper dosage.
(d) Time between doses.
(e) When to stop treatment.

Importance of desensitization of allergically sensitive patients before surgical procedures on the nose and sinuses are attempted.

Evaluation of results following low dosage therapy.

COURSE 302

Room 705 Periods M-5; T-5; W-5

GEORGE S. BAKER, M.D.
Rochester, Minn.

BY INVITATION

Intracranial Complications of Chronic Suppurative Otitis Media and Sinusitis as Seen by the Neurosurgeon

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The clinical aspects in the diagnosis of intracranial complications of suppurative otitis media and sinusitis will be discussed and the methods of treatment in handling the various conditions will be presented by use of lantern slides and charts. Neurosurgical procedures and new chemotherapeutic measures will be stressed.

COURSE 303

Room 705 Periods M-6; T-6; W-6; Th.-6

AUGUST L. BECK, M.D.
New Rochelle, N. Y.

Management of Some Common Disorders Encountered in Office and Hospital Practice

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Epistaxis

1. Source in nose.
2. Immediate management.
3. Follow-up.

Local Anesthesia

1. Intranasal.
2. For tonsillectomy.
3. For endoscopy and for bronchograms.
4. Control of toxic reactions which sometimes occur.

Immediate management of fractures of the nose as they appear in the accident room.

Middle turbinectomy technic and instrument used.

Needle-puncture of antrum of Highmore.

Motion picture of operation for the removal of salivary calculus in the submaxillary duct.

Motion picture demonstration of approaches for neck infection.

COURSE 304

Room 705 Periods T-4; Th.-4

IRL H. BLAISDELL, M.D.
Syracuse, N. Y.

Bronchography

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1. Introduction.
2. Indications and contraindications for the use of iodized oil for the purpose of mapping the tracheobronchial tree.
3. Technics of instillation of iodized oil, illustrated with moving pictures.
4. Lantern slide demonstrations of x-ray findings in the chest, following the use of iodized oil.

COURSE 305

Room 752 Periods W-6; Th.-4

C. D. BLASSINGAME, M.D.
Memphis, Tenn.

Congenital Cysts and Fistulae About the Head and Neck

The classification of three distinct types of congenital cysts and fistulae are studied from an embryological background.

1. The mid-line or thyroglossal cysts and fistulae.
2. Lateral cysts and fistulae of the neck.
3. Other cysts not included in the first two groups.

The mid-line cysts present problems which are based upon anatomy and surgical technic.

The lateral cysts and fistulae of the neck present problems which are based largely on the embryology of the head and neck. Opposing concepts of the embryology of the lateral cysts and fistulae will be presented. The more recent investigators have greatly simplified the problems of management of the lateral group of cysts and fistulae.

COURSE 306

Room 710 Periods M-4; T-4; W-4; Th.-4

LAWRENCE R. BOIES, M.D.
Minneapolis, Minn.

Current Problems in Otology

1. Is drainage of an acute middle ear suppuration important, or should we rely solely on the use of a sulfonamide or penicillin?
2. Has the local use of the newer medications changed the indications for surgical therapy of chronic suppurative otitis media?
3. Will the endaural approach to the temporal bone supplant the postaural approach?
4. Is the use of the audiometer alone adequate to determine the degree and type of hearing loss?
5. What advice shall we give our patients at the present time regarding the newer surgical procedures in otology:
   a. Fenestration for clinical otosclerosis.
   b. Labyrinthotomy for incapacitating Meniere's disease.
   c. Tympano-sympathectomy for the relief of tinnitus.

COURSE 307

Room 710 Periods M-5; T-5

JOHN MACKENZIE BROWN, M.D.
Los Angeles, Calif.

Frontal Sinusitis

Acute:

Anatomy, etiology, pathology, symptoms and differential diagnosis.

Complications through the floor, complications through the anterior wall and the posterior wall.

Treatment: General, intranasal, indications to trephine and technic.

Chronic:

Diagnosis, complications.

Treatment: General intranasal, external operations and indications.

COURSE 308

Room 710 Periods W-6; Th.-6

HANS BRUNNER, M.D.
Chicago, Ill.

Pathology and Diagnosis of Labyrinthine Fistula

Demonstration of microscopic specimen concerning labyrinthine fistulas. Discussion of pathogenesis and closure of labyrinthine fistulas. Technic of the fistula test. Results of the fistula test and their clinical evaluation.

COURSE 309

Room 710 Periods M-6; T-6

NORTON CANFIELD, M.D.
New Haven, Conn.

Rehabilitaion of the Deafened A Resume of the Armed Forces Programs and Plans for the Veterans Administration

A Introduction

Course of events leading up to Army and Navy Centers established in 1943-44 will be mentioned including the treatment given after the last war for the deafened. Induction examinations and consequences of the methods used will be elucidated and comments made. The comparison of pre-induction deafness and service-connected deafness will be the basis for discussion especially as concerns the future treatment of patients presented for treatment.

B. Treatment of Deafness as a branch of Medical Rehabilitation was the urgent cause for the establishment of the Army Centers. Load of deaf was far greater than expected and non-service-connected cases finally were included, because they needed treatment to assume army duties.

C. Preliminary stages of the Centers, first established at Walter Reed Hospital and later moved to Butler, Pa. Two others started at Santa Barbara, California and Chickasha, Oklahoma.

D. Extent of each center, type of cases handled, staff and organizational location within the hospital will be explained to illustrate the decisions made which placed the service strategically in a medicine installation. The staff with its various functions will be enumerated and the progress of each individual through the course. Variations between the Army and Navy program will be mentioned.

E. Results of the treatment as indicated by follow-up questionnaires and attentention by the Veterans Administration will be discussed with the implications encountered with Hearing Aid problems and their proper service.

F. Research help by civilian groups during the war and its application to the program including development of apparatus especially for the centers.

G. The present and future plans for the Army and Navy Units and how the V. A. will carry on the work will be explained. The V. A. has established a new specialty of Audiology for the management of the load and experience of the forces will be used as the basis of its program. The statistical analysis of cases from the three hospitals will designate trends and direct the course of future efforts. Veteran and Civilian centers are to provide necessary care for the country as a whole with the central idea that a large proportion of deafness will not respond satisfactorily to medical therapeutics.

COURSE 310

Room 710 **Periods W-5; Th.-5**

JAMES B. COSTEN, M.D.
St. Louis, Mo.

Diagnosis of Mandibular Joint Neuralgias

There is a frequent similarity in pain distribution over various branches of the V nerve, regardless of the site of origin of the primary irritation. When evident sinus infection is present, or neurological origins are typical, the diagnosis is clear. When mutilation of the mandibular joint has occurred, producing a faulty movement of the condyle or a position in the glenoid fossa to impinge sensitive areas, a reflex factor is added to the other pain distributions which complicates the diagnosis. Attempt will be made to explain the mechanism of such dysarthrosis, and to differentiate between the various reflex effects. Summary of symptoms and findings in a large series of cases will be presented.

COURSE 311

Room 777 **Periods M-6; T-6**

DANIEL S. CUNNING, M.D.
New York, N. Y.

Diagnosis and Treatment of Laryngeal Tumors

The diagnosis and treatment of practically all laryngeal lesions, as seen in the Laryngeal Clinic of the Manhattan Eye, Ear and Throat Hospital, both benign and malignant, will be discussed with lantern demonstrations. Including Papilloma, Polyp, Vocal Nodules, Contact Ulcers, Fibroma, Cystoma, Lipoma, Adenoma, Myoma, Lymphoma, Chondroma, Osteoma, Varices, Mycosis, Fungoides, Thyroid Tumors, Tuberculosis, Syphilis and Cancer. Paralysis of one or both vocal cords with the Kelly operation for Bilateral Abductor paralysis will also be discussed if time permits.

In the malignant cases, x-ray therapy and surgical treatment will be discussed. The technic of direct laryngoscopy, laryngo-fissure and laryngectomy will be taken up in detail.

COURSE 312

Room 706 **Periods W-5; Th.-5**

RUSSELL M. DECKER, M.D.
Pasadena, Calif.

Management of Early Deafness

This course includes a review of the routine examination necessary in the detection of early deafness. A discussion of the practical significance of the var-

ious findings in determining the degree of hearing loss will be held. The type of deafness present, as well as suggested treatment, will also be discussed.

Early detection of hearing loss often necessitates tests of the hearing of very young children. This is particularly important when otoscopic examination shows no defect and when there is no history of illness or injury.

Consideration will be given to the management of the causes of early deafness. This management should be directed toward not only pathological processes, but also to the prevention of further hearing loss.

COURSE 313

Room 706 Periods T-6; W-6; Th.-6

FRED W. DIXON, M.D.
Cleveland, Ohio

Anatomy and Treatment of Acute and Chronic Sinusitis

It is essential in the conservative or operative treatment of the nasal accessory sinuses to have a thorough knowledge of their anatomy.

For those who do not find the dissecting room available, this course is presented. One hundred specimens showing the various abnormalities of the sinuses will be examined; the remaining time will be spent in discussing treatment and operations.

COURSE 315

Room 711 Periods T-4; W-4; Th.-4

A. C. FURSTENBERG, M.D.
Ann Arbor, Michigan

Organic Neurological Considerations of Interest in Rhino-Laryngology

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COURSE 316

Room 706 Periods M-5; T-5

T. C. GALLOWAY, M.D.
Evanston, Ill.

Respiratory Obstruction, Bulbar Poliomyelitis and Anoxia

More important than obstruction at high level are the secondary effects due largely to increased negative thoracic pressure. These are congestion, exudation, atelectasis, and with superimposed infection various types of lung damage including bronchiectasis. Anoxia is important from the outset and along with other quickly irreversible effects determines the necessity and time of intervention.

Causes of respiratory obstruction are outlined. Tracheobronchitis is discussed as an example. Its diagnosis, physiopathology and treatment are outlined including the indications and technic of cannulation, and irrigation and postural drainage.

Bulbar polio is often a laryngeal emergency in which not enough attention has been paid to flooding of the airway and lungs. Anoxia, reflex respiratory difficulty and, if a respirator is used without successful aspiration of secretion, drowning may ensue. Anoxia frequently accounts for important symptoms ascribed to the virus. Oxygen, aspiration, postural drainage and the respirator can save most cases. Tracheotomy may, however, be life saving by relieving asphyxia, short circuiting secretions and permitting better aspiration.

Flame injuries, anesthetic crises and sudden death after successful tracheotomy will be touched upon. Blood chemistry and pH will be discussed in relation to the use of oxygen, carbon dioxide and surgical intervention.

COURSE 317

Room 711 Periods T-5; W-5; Th.-5

WILLIAM D. GILL, M. D.
San Antonio, Texas

Fractures of the Facial Bones

A brief anatomical review of the anatomy of the facial bones followed by a discussion of the various causes producing fractures in this region. A classification of the various types of fractures encountered with emphasis on certain types and their relationship to the nasal accessory sinuses and orbital structures will be considered. The Clinical Course and complications of such injuries and new ideas which have been developed recently in the treatment of such fractures will be reviewed. The various methods

of fixation of fragments will be considered as well as a variety of methods of reduction of fragments. Plastic procedures to correct loss of substance will be briefly discussed.

COURSE 318

Room 711 Periods M-6; T-6; W-6; Th.-6

T. ROY GITTINS, M.D.

Sioux City, Iowa

Headache, Neuralgia, and Vertigo: Differential Diagnosis

These three symptoms are chosen for consideration together because they are so commonly of similar vasomotor origin and tend to appear periodically in a large percentage of the patients who come to us in every day office practice.

Differential diagnosis and treatment in our specialty are continuously confused because these symptoms direct medical and lay attention to our special anatomical field, while in a very great many instances the causes of the symptoms are of general origin.

Differential diagnosis will be contrasted with treatment diagnosis.

COURSE 319

Room 712 Periods M-4; T-4; W-4; Th.-4

H. N. GLICK, M.D.

St. Louis, Mo.

The Fenestration Operation

This course will consist of a brief presentation of the development and surgical anatomy of the present-day fenestration operation on the labyrinth. Anatomical preparations showing some of the more important surgical steps will serve as a basis for a demonstration. Illustrations with lantern slides assisted by a discussion of the early experiences, indications for operation, recent modifications in technic, and present-day evaluation will constitute the major points for consideration.

COURSE 320

Room 713 Periods M-4; T-4

HENRY M. GOODYEAR, M.D.

Cincinnati, Ohio

Surgical Demonstrations of the Management of Acute and Chronic Infections of the Nasal Sinuses

The types of premedication will be given and points of injection for local anesthesia shown.

The treatment of acute frontal and ethmoid infections will be discussed, including the operations of choice when indicated. The use of Penicillin will also be mentioned.

The treatment of maxillary sinus infections including Tyrothricin, Penicillin and iodized oil.

Sagittal sections as used for postgraduate teaching with the neck set in permanent material will be used. Sections will be cut so that the instruments advised and their cutting action can be seen from the side view of the sagittal skull while the steps of intranasal operations are demonstrated.

COURSE 321

Room 712 Periods T-5; W-5; Th.-5

W. E. GROVE, M.D.

Milwaukee, Wisconsin

The Otoneurology of Head Injuries

With the exception of headache the most common symptoms following a head injury are dizziness, tinnitus and loss of hearing. As, with few exceptions, the objective examination concerns itself with the function of the twelve cranial nerves, the examination of these cases is best carried out by the otolaryngologist, especially if he also practices ophthalmology.

The hearing may be damaged by a head injury, but a careful evaluation must be made as to whether the exhibited hearing loss could have been caused by the injury or whether it antedated the injury; whether it was caused by other factors or whether a pre-existing hearing loss could have been aggravated by the injury. The methods of arriving at a correct diagnosis and a correct evaluation of the hearing loss will be worked out on the rating table adopted by the AMA. Malingering tests will be described.

Many head injuries cause a temporary dizziness, but the otologist must decide whether the dizziness which persists is a true vertigo caused by damage to the vestibular mechanism, either central or peripheral. The various tests for vertigo will be described and their relative importance evaluated.

The diagnosis, prognosis and treatment of basal skull fractures will be discussed.

COURSE 322

Room 712 Periods M-6; Th.-6

STANLEY F. HAMPTON, M.D.
St. Louis, Mo.

BY INVITATION

Allergy in Relation to Otolaryngology

This course will be a discussion of the classification of types of allergic diseases according to extrinsic (pollen, inhalant, food, drug) and intrinsic (bacterial, etc.) allergy, specific etiology, diagnosis and methods of determining etiological offending allergens, prognosis based on type of disease and the specific and symptomatic treatment of hay fever and vasomotor rhinitis.

The relationship of suppurative and hyperplastic sinusitis to allergic disease, particularly vasomotor rhinitis and bronchial asthma will be discussed.

The value and limitations of skin testing will be presented. The different types of specific and non-specific injection therapy will be evaluated. The use of drugs in symptomatic treatment and drug hypersensitivity, particularly to the sulfonamides and penicillin, will be discussed.

Local therapy to the nose and throat, particularly sinus irrigations and displacements, polypectomy and cauterization as well as sinus surgery in allergy will be evaluated from the allergist's viewpoint.

I. Classification of Allergic Disease.
   A. Extrinsic (Pollen, Inhalant, Food, Drug, Serum).
   B. Intrinsic (Bacterial, Endocrine, "H"-Substance.
II. Diagnosis.
   A. History.
   B. Physical Examination.
   C. Skin Testing.
   D. Miscellaneous (Nasal Cytology, x-rays, etc.)
III. Skin Testing—evaluation and limitations.
   A. Different types of Extracts and Standardizations.
IV. Prognosis With and Without Treatment.
V. Treatment of Hay Fever:
   A. Specific (Injection Therapy with Pollen Extracts).
      1. Preseasonal, perennial and coseasonal.
   B. Symptomatic (Drugs, Filters, etc.)
VI. Treatment of Vasomotor Rhinitis (Extrinsic and Intrinsic).
   A. General Principles.
   B. Specific—in Extrinsic Types.
   C. Non-specific (Use of Vaccines, etc.)
   D. Symptomatic.
VII. Relationship of Suppurative and Hyperplastic Sinus Disease to Allergy (Vasomotor Rhinitis, Asthma, Urticaria and Angioneurotic Edema).
VIII. Local ENT Therapy in Allergic Disease (Vasoconstrictors, Polypectomy, Irrigations, Cauterization, Bronchoscopy).
IX. Use of Drugs.
   A. Benadryl, Sulfonamides, Penicillin, etc.
X. Questions and Answers.

COURSES 323

Room 724 Periods M-6; T-6; W-6; Th.-6

FRENCH K. HANSEL, M.D.
St. Louis, Mo.

Allergy of the Nose and Paranasal Sinuses

In the discussion of this subject will be considered the fundamental principles of diagnosis and treatment. A new rapid technic of staining ocular, nasal, and bronchial secretions will be demonstrated. Among the various methods of treatment, detailed consideration will be given to dust therapy.

COURSE 324

Room 724 Periods M-4; T-4; W-4; Th.-4

FREDERICK T. HILL, M.D.
Waterville, Maine

Management of Chronic Conditions of the Maxillary Antrum, Including Antro-Alveolar Fistulae

The successful management of chronic conditions of the maxillary antrum demands careful study of the individual case, keeping in mind the possibility of contributing factors of systemic or constitutional origin. A working knowledge of the anatomy and physiology is essential.

Chronic conditions such as purulent sinusitis, hyperplastic sinusitis, benign and malignant neoplasms will be considered, with special attention being devoted to the management of antro-

alveolar fistulae. Various operative procedures will be discussed.

COURSE 325

Room 786 Periods M-6; Th.-6

PAUL HOLINGER, M.D.
Chicago, Ill.

Management of Diseases of the Esophagus

The management of diseases of the esophagus remains largely in the hands of the otolaryngologist doing endoscopic work. This course will present the clinical and pathologic aspects of diseases of the esophagus from the endoscopic standpoint. Methods of examination, including special roentgen ray examination, and peroral and retrograde esophagoscopy will be discussed in detail. The newer aspects of treatment of diseases of the esophagus such as the injection of esophageal varices and the various surgical procedures employed in the treatment of carcinoma of the esophagus, extreme cardiospasm, congenital esophageal atresia and atresias due to caustics will be presented.

COURSE 326

Room 712 Periods M-5; T-6; W-6

A. R. HOLLENDER, M.D.
Miami Beach, Florida

The Pathology, and Treatment of Nasopharyngeal Diseases

The applied anatomy and histology of the nasopharynx merit brief consideration. The nasopharynx is frequently the seat of inflammation or neoplasms, while injuries play a minor role. Acute inflammations are part of a process of the entire pharyngeal mucosa, or of Waldeyer's ring. Chronic inflammations are either specific or nonspecific. Next to adenoids, cysts, choanal polyps and fibromas merit attention. Of the malignant tumors, carcinoma and lymphosarcoma receive first consideration. Diagnosis of nasopharyngeal diseases is effected by special methods. Treatment consists of medical, surgical and electro-surgical procedures, and irradiation (x-ray and radium).

Course 327

Room 724 Periods M-5; T-5; W-5; Th.-5

BAYARD T. HORTON, M.D.
Rochester, Minnesota

BY INVITATION

Headaches and Head Pains (Supplementary Motion Picture Demonstration)

The specific types of headaches and head and face pains, the recent advancements in their treatment, and the pain mechanisms involved will be considered. There will be a discussion of the differential diagnosis and treatment of the various syndromes, including migraine and histaminic cephalgia. The clinical features such as location and distribution of the pain, associated ophthalmologic and rhinologic manifestations will be emphasized as an aid in classification. Each clinical entity will be clearly illustrated by technicolored movies.

COURSE 328

Room 722 Periods M-4; T-4; W-4; Th.-4

HOWARD P. HOUSE, M.D.
Los Angeles, Calif.

Endaural Approach to Temporal Bone Surgery

This illustrated course is designed to acquaint the otologic surgeon with the advances and technic of the endaural approach to the temporal bone.

The endaural incision will be illustrated and discussed at length. The necessity of making the incision exactly right will be stressed.

The advantages of the dental burr in temporal bone surgery, together with the technic of its use, will be noted.

The following operations will be discussed:

1. Simple Mastoidectomy.
2. Modified Radical Mastoidectomy.
3. Radical Mastoidectomy (mastoidotympanectomy).
4. Surgery of the Petrous Apex (mastoidotympanoapicectomy).
5. Surgery of the Labyrinth.
   (a) Lempert fenestration operation for otosclerosis.
   (b) Day operation for Meniere's disease.
   (c) Other labyrinthine procedures.

The importance of proper postoperative care in endaural cases, together with the end results of the surgery, will be noted.

COURSE 329

Room 722 Periods M-5; T-5;
CHEVALIER L. JACKSON, M.D.
Philadelphia, Pa.

Problems in Technic in Bronchoscopy

Indications and technic of anesthesia, local and general, will be considered. The various methods of holding the head by the human hand and by the mechanical head rest will be discussed and demonstrated. Methods of holding and manipulating the bronchoscope and accessory instruments will also be considered, as well as the function of the nurse or assistant passing the instruments. The different technics of introduction of the bronchoscope with and without the aid of the laryngoscope, and the technic of endoscopic orientation in relation to the broncho-pulmonary anatomy will be shown. The use of various auxiliary lighting and optical systems will be discussed and evaluated.

COURSE 330

Room 722 Periods W-5; Th.-5
CHEVALIER L. JACKSON, M.D.
Philadelphia, Pa.

Surgery of the Larynx

The surgical anatomy of the larynx will be briefly considered, as well as the technic of examination by indirect and direct laryngoscopy. The technic of direct laryngoscopic removal of tissue for biopsy and of benign tumors will be demonstrated. The technic of the operations of tracheotomy, laryngostomy, laryngofissure, laryngectomy, and laryngoplasty for bilateral recurrent laryngeal paralysis will be described and illustrated by means of slides, motion pictures, models, and specimens.

COURSE 331

Room 722 Periods M-6; T-6
W. H. JOHNSTON, M.D.
Santa Barbara, Calif.

Office Procedures and Remedies Used in Otolaryngology

Office procedures which have been in use for a sufficient length of time to have proven their worth will be discussed in general. The various diseases of the ear, nose and throat will then be considered separately.

Remedies which have been in use for the past 30 years as well as many new remedies for ear, nose and throat diseases will be discussed.

Postoperative care of non-complicated cases as well as those with complications will be considered. Based on personal experience, an attempt will be made to evaluate the various procedures and remedies.

COURSE 332

Room 722 Periods W-6; Th.-6
CHARLES E. KINNEY, M.D.
Cleveland, Ohio

Practical Office Audiometry

I. General Consideration:
Accurate hearing testing and experimental work along these lines requires considerable technical training and extensive equipment. The average otologist can do 85 per cent as good work with a little practical common sense understanding and no more equipment than an audiometer.

II. A quick practical way to survey all new patients is presented, thus eliminating the old watch tick and spoken voice tests.

III. Accurate audiometric diagnosis.
A. Practical considerations of extraneous noises. So called "Sound Proof Room" NOT necessary.
B. Consideration of the audiometer with particular reference to frequent office calibrations.
How to get the audiometer out from under a stack of medical journals.
C. Practical points as to the recording and evaluating findings.

COURSE 333

Room 731 Periods M-4; T-4
SAMUEL J. KOPETZKY, M.D.
New York City

The Systemic Dysfunctions Among the Deafened

The time is ripe for a discussion of some basic principles. These relate particularly to the application of basic phy-

siological concepts to clinical surgery. Otology is essentially a surgical specialty, but care must be taken to emphasize the necessity of comprehending physiology, as its derangements reflect themselves in degrees of deafness.

Water salt regulation, and acid-base balance have been reduced to simple rules and chemical equivalents. In our field the dysfunctions of the liver, particularly its delivery of either carotene or its vitamin levels, indicating the failure of catalytic functions of enzymes, have definite effects on hearing losses, particularly where an hereditary factor is in evidence.

Some proof also is being found that slight inflammatory reactions in the middle ear and adnexa, long overlooked, also play their role. Finally, there is being evolved evidence that, irrespective of the audiometric findings upon functional examination, no hearing gain is attainable either by medical or by surgical therapy where certain physiological dysfunctions remain uncorrected.

The lecture will take these factors and elements into discussion, authenticated by case reports.

The therapy, particularly medical for the Meniere syndrome, will be presented. The evaluation of chemical blood studies will be presented, and the deductions to be made from them as to diagnosis and specific therapy to alleviate or cure physiological dysfunctions.

Cases in which fenestration has been performed, and which failed to hold the temporarily newly acquired hearing acuity in spite of a remaining open fenestra, will be analytically presented.

The discussion will evaluate newly adopted therapeutical procedures, and present a routine to be followed in the management of cases with varying degrees and types of deafness.

COURSE 334

Room 728 Periods M-5; T-5

C. M. KOS, M.D.

Durham, North Carolina

Interpretations of Vestibular Tests in Office Practice

The subject, "Interpretations of Vestibular Tests in Office Practice" will include a brief discussion of the anatomy and the functional adaptability of the equilibratory system. The methods available for determining the functional integrity of the Balance mechanism, with particular attention applied to the labyrinthine apparatus, will be described. Manifestations of vestibular irritation and suppression induced or resulting from disease will be presented with reference to the indications and contraindications for employing the various tests. A summary of the subject shall include interpretations, with regard for reliability and correlation of test results obtained in disturbances affecting the equilibratory system.

COURSE 335

Room 731 Periods M-5; T-5; W-5; Th.5

J. R. LINDSAY, M.D.

Chicago, Illinois

Vertigo From the Otological Standpoint

The course has been designed to cover the routine examination necessary in cases of vertigo, the differential diagnosis and treatment. It includes:

1. Definition of the terms Meniere's Symptom Complex, Meniere's Disease, and pseudo-Meniere's Syndrome as commonly used.
2. Routine examination and method of recording findings.
3. Significance of the findings in localizing the site of disease. Significance of postural vertigo.
4. Differential diagnosis in so-called pseudo-Meniere's and Meniere's syndrome.
5. Discussion of Meniere's disease, including clinical stages, auditory characteristics, pathology and treatment.

COURSE 336

Room 728 Periods M-4; M-6

JOHN S. LUNDY, M.D.

Rochester, Minnesota

BY INVITATION

The Choice of Anesthetics and Special Points of Technic in the Administration

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The use of general inhalation anesthetics for eye, ear, nose and throat operations is greatly facilitated by the use of the Magill intratracheal tube. This allows quiet and adequate respiration. The anesthesiologist is able to stay out of the surgeon's way. The field of opera-

tion may be kept uncontaminated and undisturbed. The tube may be used either through the mouth or through the nose, and is one of the most valuable assets possessed by the anesthesiologist. Technical points in the use of the tube will be discussed, and will be illustrated by lantern slides.

The use of intravenous anesthesia will be discussed. The most essential technical point is venipuncture. This will be discussed in detail since without successful venipuncture the method cannot be used. The value of preliminary medication will be emphasized. The use of curare (intocostrin) will be discussed, especially in connection with the suspension operation using Lynch's device.

Discussion of the choice of anesthetics for particular operations will be developed along lines indicated by those who are in the group so that problems of special interest to those in attendance may be stressed.

COURSE 337

Room 728 Periods W-5; Th.-5

C. H. McCASKEY, M.D.
Indianapolis, Ind.

Neck Surgery in Otolaryngology

If one is to do this type of surgery he should have a basic background, especially in anatomy, pathology, bacteriology, diagnosis and differential diagnosis, and surgical technic. Tumors, neck abscesses, tracheotomies, laryngofissures, laryngectomies, thyroglossal duct cysts, fixation of vocal cords, oesophageal diverticulae and other problems involving neck surgery will be discussed.

COURSE 338

Room 713 Periods M-5; T-5

BERNARD J. McMAHON, M.D.
St. Louis, Mo.

Facts and Fallacies of Intranasal Medication

The use of intranasal medication has been carried to the point in recent years where there is more damage done to the nasal structure than there could possibly be benefit.

The various solutions used for intranasal medication will be discussed. Certain pathological changes in the mucosa will be described and their significance stressed. The proper use of intranasal medicaments and the results harmful to the physiology of the nose will also be explained.

COURSE 339

Room 731 Periods M-6; T-6; W-6; Th.-6

W. J. McNALLY, M.D.
Montreal, Canada

Practical Methods of Carrying Out Labyrinthine Tests: Indications and Clinical Applications

This course is designed to present the basic or elementary facts which are necessary for an understanding of clinical labyrinthine tests. Much of the time will be taken up in studying the actual methods of carrying out the various tests. Time will also be given to working out the interpretation of reactions which follow the simple tests. The simplicity of the tests will be stressed because they can be made very complex. There is still so much speculation and so much to be learned about labyrinthine function that there is no universal agreement about many of the points which come up in the course of a labyrinthine examination. There are, however, a sufficient number of basic facts known to justify the general adoption of a labyrinthine test which should become part of the otologist's routine examination. As a brief introduction, the anatomy and physiology of the semicircular canals and the otoliths will be reviewed. The examination of spontaneous phenomena will be considered. Guides for the detection of spontaneous nystagmus will be given. An interpretation of past-pointing tests and its relation to vestibular stimulation will be studied. The technic of performing the caloric and rotation tests will be taken up in detail. The rules which govern labyrinthine reactions will be used to interpret the results of these tests. Finally the significance of the results of the tests in labyrinthine and intracranial diagnosis will be investigated.

COURSE 340

Room 713 **Periods W-5; Th.-5**

GEO. S. McREYNOLDS, M.D.
Galveston, Texas

The Technic and Importance of Bronchography

The technic of bronchography in adults and in children will be described. The value and importance of careful mapping of the tracheobronchial tree in the diagnosis and treatment of thoracic disease will be stressed by illustrative cases.

COURSE 341

Room 713 **Periods M-6; T-6; W-6; Th.-6**

J. H. MAXWELL, M.D.
Ann Arbor, Mich.

The Complications of Frontal Sinus Infections

The complications of acute and chronic frontal sinus infections that are discussed in this course include sub-periosteal abscess, periorbital abscess, orbital cellulitis, cavernous sinus thrombosis, osteomyelitis of the frontal bone, epidural abscess, subdural abscess, meningitis, and brain abscess. The early signs and symptoms of these complications are evaluated and an effort is made to outline a plan for differential diagnosis. Finally, treatment both chemotherapeutic and surgical of these complications is discussed in detail.

COURSE 342

Room 713 **Periods W-4; Th.-4**

ALDEN H. MILLER, M.D.
Los Angeles, Calif.

Acute Diseases of the Epiglottis

A clinical consideration of symptoms, findings and treatment of acute diseases of the epiglottis including abscesses, acute primary epiglottitis, epiglottitis secondary to upper respiratory infections, angio-neurotic edema and specific infections. Routes of infection and bacteriology will be discussed with special reference to H. influenza, type B, infections. Early recognition and treatment to prevent laryngeal obstructive complications will be stressed.

COURSE 343

Room 733 **Periods M-4; T-4; W-4; Th.-4**

PAUL M. MOORE, M.D.
Cleveland, Ohio

Lesions of the Mouth

A kodachrome illustrated discussion of many of the lesions seen in the mouth. This will include lesions of the mucous membranes, gums, tongue, bone, adjoining structures and the oral manifestations of some of the general diseases.

COURSE 344

Room 706 **Periods M-6**

HARRIS P. MOSHER, M.D.
Marblehead, Mass.

My Milestones

The title "My Milestones' is purely a personal one. What have been milestones to me may not seem the same to others. One can have many milestones, but only one headstone or gravestone. Sometimes a surgeon's milestones were the gravestones of his patients.

This is a reminiscent paper. The following topics will be discussed briefly, and often dogmatically.

The Frontal Sinus.
Extradural abscess.
Brain abscess
Arachnoid cyst.
Orbital abscess.
The lachrymal sac operation.
Pus in the neck.
Fibrosis of the esophagus.
Dilatation of the terminal portion of the esophagus by fluoroscopic sight.
Cervical exostoses. The lateral x-ray plate of the neck.
Infectious thrombo-phlebitis.
Tracheotomy without a tube.

COURSE 345

Room 728 **Periods T-4; W-4; Th.-4**

C. STEWART NASH, M.D.
Rochester, N. Y.

Functional Diseases of the Nose

It has been estimated that about 90 per cent of the diseases of the nose are physiologic in origin.

If the normal functions of the nose are to be maintained, the nasal mucosa must be normally active; it can neither hypofunction nor hyperfunction.

This course will include informal lectures and discussions on such hypofunctioning diseases as Physical, Psychic, and Febrile Rhinitis; and such hyperfunctioning diseases as Irritative, Infective (the common cold) and Endocrine Rhinitis. Emphasis is to be laid on conditions which are often unrecognized and consequently improperly treated.

COURSE 346

Room 728 Periods T-6; W-6; Th.-6

WELLWOOD M. NESBIT, M.D.
Madison, Wisconsin

Surgical Shortcuts in the Field of Otolaryngology

COURSE 347

Room 731 Periods W-4; Th.-4

H. B. PERLMAN, M.D.
Chicago, Ill.

Quantitative Tests of Eustachian Tube Function

Every patient with ear disease requires an evaluation of his tubal function. Disturbance of the Eustachian tube function may take the form of abnormal patency or varying degrees of obstruction. The latter is of importance in recently developed industries such as aviation, caisson workers, etc., and is a primary factor in development of chronic middle ear deafness in childhood. The methods which have long been in use for testing this function are qualitative and difficult to evaluate. More exact methods should be developed if we are going to be able to define the normal and pathological tube.

In this presentation an attempt will be made to point out the value and significance of some of the well known maneuvers such as Valsalva, Toynbee, etc., and to demonstrate how such tests can be measured quantitatively. Obstruction of the tube produces a reduced air pressure in the middle ear. A simple method for determining the air pressure in the middle ear will be de demonstrated. Details of the method and its practical application will be presented. Results obtained on controlled experiments in normal and pathological ears will be discussed.

Politizerization may be used to determine the degree of Eustachian tube obstruction. An apparatus will be shown by which the resistance of the tube to inflation during swallowing can be measured. The practical value of such a method for tubal inflation is pointed out.

COURSE 348

Room 736 Periods M-4; T-4; W-4; Th.-4

ARTHUR W. PROETZ, M.D.
St. Louis, Mo.

Current Opinion and Practice in Nasal Treatment and Surgery

During the last 10 years many changes have taken place in nasal therapy and surgery. Some of the newer practices are standing the test of wide application, some others have either been overemphasized by the enthusiasts or, having been found effective but limited in application, are still on trial. It will be attempted in these conferences to evaluate methods in the light of published reports and personal experience.

COURSE 349

Room 727 Periods W-4; Th.-4

A. G. RAWLINS, M.D.
San Francisco, Calif.

Allergic Sinusitis

A very short discussion on the mechanism of the allergic reaction. Practical, clinical pathology produced. Difference between pathology in allergy and in infection. Why we get secondary infection on an allergic membrane. Nasal cytology, with slides. Discussion of the eosinophile. What a positive skin test means. What a negative skin test means. Therapeutic test. Testing in general. Specific, and other allergens in dust. Dust as commonest cause of chronic allergic sinusitis. The treatment with special emphasis on very small dosage and optimum dosage. General handling of dust cases. Short discussion on food and mold allergy. How to simplify work in nasal allergy.

COURSE 350

Room 736 Periods M-5; T-5; W-5; Th.-5

SCOTT N. REGER, Ph.D.
Iowa City, Iowa

BY INVITATION

The Selection of Hearing Aids

I. Obligation of the otologist to the patient in need of a hearing aid.

II. Types of hearing aids.
III. Indications for use of hearing aids.
IV. Psychological acceptance; social and economic considerations.
V. Interpretation of audiometric and controlled speech tests.
VI. The individually molded ear piece.
VII. Minimum practical selection procedures without the use of laboratory equipment.
VIII. Hearing aid clinic selection procedures; performance ideals.
IX. Use training; performance recheck; lip reading.
X. Recommendations and Reports of the Committee on Hearing Aids of the Council on Physical Medicine of the American Medical Association.

COURSE 351

Room 736 Periods M-6; T-6; W-6; Th.-6

SCOTT N. REGER, Ph.D.
Iowa City, Iowa

Technic and Interpretation of Functional Hearing Tests

I. General considerations:
  A. Testing environment.
  B. Calibration and maintenance of equipment.
  C. Testing procedures.
  D. Masking noise.
  E. Factors influencing accuracy.
II. Diagnostic differentials:
  A. Threshold profile for pure tones.
  B. Degree of impairment.
  C. Relationships between air and bone conduction acuity.
  D. Mobility tests.
  E. Response to pure tones above threshold levels; loudness level balancing and equal loudness level contours.
III. Controlled intensity level speech tests.
IV. Malingering.
V. Recording and classification of audiometric measurements.
VI. Evaluation of hearing disability.
VII. Recommendations of the Audiometer Standardization Committee of the Council on Physical Medicine of the American Medical Association.
VIII. Group audiometry.

COURSE 352

Room 711 Period M-5
Room 733 Period W-5

J. M. ROBB, M.D.
Detroit, Mich.

Problems of Office Practice

COURSE 353

Room 733 Periods M-5; T-5

SAM E. ROBERTS, M.D.
Kansas City, Mo.

Therapy in Otolaryngology

The discussion will be limited entirely to therapy except where necessary to explain symptomatic indications.

It will be presented under the following topics:

1. Drugs: local and systemic.
2. Nutrition and Biochemistry-therapeutic application.
3. Penicillin and Sulfonamides.
4. Vitamins and trace Minerals.
5. Physical Therapy: hyperpyrexia, x-ray and radium.

It will be emphasized that the health and well-being of our patients have much to do with the success we have in treating their ills in our specialty. We should keep ourselves informed on these matters that will be helpful, and advise our patients accordingly.

Management of non-surgical sinusitus and auditory neuritis will be emphasized.

COURSE 354

Room 733 Perods M-6; T-6

J. M. ROBISON, M.D.
Houston, Texas

Physiology and Functional Pathology of the Lymphatic System applied to Otorhinology

The phylogenetic development and anatomy of the lymphatic system will be described briefly. The physiology and functional pathology of the lymphatic system will be considered with particular reference to catarrhal otitis media with effusion and sinusitis. The clinical significance of the relation between the capacity of the sinus and the volume of its mucosa in the various stages of purulent and allergic sinusitis will be shown with indications for treatment correlated with the protein content and colloid osmotic

pressure of the secretion and tissue fluid. Treatment of the various stages of allergic sinusitis will be given with emphasis on the application of local pressure to the mucosa of the maxillary sinus by inserting balloons in the sinus to remove stagnant tissue fluid from the edematous mucosa.

COURSE 355

Room 734 Periods M-5; T-5; W-5; Th.-5

SAMUEL SALINGER, M.D.
Chicago, Ill.

Nasal Fractures: Recent and Old; Diagnosis and Treatment

This presentaton will include demonstration of types of fractures in adults and children; evaluation of local signs; correct projections for satisfactory x-ray films; discussion of methods of reduction; time of application and means of retention.

Complications such as external lacerations and fractures involving other facial bones.

Old fractures will be considered from both the functional and cosmetic point of view and methods of correcting the intranasal as well as the external deformity will be presented.

COURSE 356

Room 733 Periods W-6; Th.-6

LEROY A. SCHALL, M.D.
Boston, Mass.

Cancer of the Upper Respiratory Tract

This lecture concerns itself with histopathology of the more common malignant diseases that involve the nose and the nasal accessory sinuses.

There will be a discussion of the cell types, behavior and characteristics of each individual group. Although this discussion will be somewhat elementary, it is necessary for a thorough appreciation of the treatment and behavior of malignant disease.

The symptoms of nasal and sinus malignancy will be considered based upon the location and type of the growth, and there will be a discussion of proper methods of treatment, both surgical and radiological. There will be a review of the tumors that involve the nasopharynx and a discussion of their symptoms as well as the treatment of these tumors. An attempt will be made to differentiate tumors of the tonsil and the base of the tongue.

Concerning malignant disease of the larynx, there will be a discussion of the types of tumors, the location of the growth, and how treatment depends upon each individual case as to the type of growth, as to its location, and as to its extent, and somewhat upon the age of the patient. The various types of treatment of malignant disease of the larynx will be presented.

COURSE 357

Room 739 Periods T-4; W-4; Th.-4

L. M. SELLERS, M.D.
Dallas, Texas

Headaches of Otorhinologic Origin

A most grateful patient is one who has been relieved of headache—either mild and nagging or severe and disabling. Because a strikingly high percentage of headaches is of Otorhinologic origin, the Otorhinologist occupies a highly strategic and advantageous position in the fight against this affliction.

The course here offered is designed to prepare the Otorhinologist to recognize those headaches of Otorhinologic origin. Since there are a number of definite causes of such headaches, and since each cause produces a definite type of headache, each cause and its clinical manifestation will be correlated. The means of making definite differential diagnoses and the application of specific therapeutic measures to each type of case will be presented and illustrated with applicable case histories. Histamine type headache will be discussed similarly and its control described in detail.

The course will be well outlined and illustrated with lantern slides.

COURSE 358

Room 734 Periods M-4; T-4; W-4; Th.-4

BEN H. SENTURIA, M.D.
St. Louis, Mo.

Etiology, Pathology and Treatment of External Otitis

Much uncertainty exists as to the etiology and pathology of external otitis. As a consequence, there are many thera-

peutic agents generally employed in the treatment of external otitis which have little scientific basis for their use.

The application of controlled bacteriological and mycological procedures has demonstrated that our concepts of etiology need revision. Preliminary histopathological observations have produced further data of importance in evaluating the treatment of infections of the external auditory canal.

On the basis of these findings, the various therapeutic agents and procedures currently in use for the treatment of external otitis will be examined and discussed. Indications and contraindications for the use of penicillin and streptomycin will be presented.

COURSE 359

Room 734 Periods M-6; T-6; W-6; Th.-6

GEORGE E. SHAMBAUGH, JR., M.D.
Chicago, Ill.

Fenestration Operation
The Clinical Application of Experimental Studies

Bony closure of the labyrinthine fistula has been the chief obstacle to the surgical improvement of hearing in cases of otosclerosis. Experimental studies on the monkey have brought out some of the factors that influence osteogenesis following the operation. The clinical application of these experimental studies has reduced the incidence of bony closure to five per cent after two years.

Postoperative serous labyrinthitis is the second important cause for failure after the fenestration operation. The mechanism of this labyrinthitis has been studied experimentally and applied clinically.

COURSE 360

Room 738 Periods M-4; T-4

JOHN J. SHEA, M.D.
Memphis, Tenn.

Therapy of Histamine and Nicotinic Acid

The chief complaint of headache alone or associated with vertigo is the reason that the majority of patients seek relief from the otolaryngologist. The therapy of histamine and nicotinic acid is the hopeful remedy for these individuals.

The therapy of histamine and nicotinic acid has rendered marvelous relief to many patients suffering from dysfunctions of the auditory nerve, manifested by deafness, tinnitus or vertigo, and to headache of the nonsurgical variety. These drugs are vasodilators and as such relieve vasoconstriction affecting the auditory nerve and cranial vessels. Nicotinamide does not produce the cerebral vasodilatation like nicotinic acid, and the modus operandi of nicotinic acid accomplishing vasodilatation is a result of the chemical combustion when it becomes an amide.

COURSE 361

Room 738 Periods M-5; T-5

JOHN J. SHEA, M.D.
Memphis, Tenn.

Modern Treatment of Infections of the Ear, Nose and Throat

The modern treatment as used in the office today has changed from the solvent packs to the use of antiboitics.

The technic of sinus irrigations will be considered.

The method of penicillin inhalation will be discussed.

The frequency of fungus infections of the external ear and its treatment will be outlined.

COURSE 362

Room 738 Periods W-6; Th.-6

W. LIKELY SIMPSON, M.D.
Memphis, Tenn.

The Semi-Radical Mastoid Operation

A short discussion of the pneumatization of the temporal bone and the result of infection upon the progress of pneumatization.

The indications for the modified radical mastoid operation:

1. Chronic suppurative otitis media with pathological processes which can be entirely or in a large part eradicated through this approach.
2. Hearing acuity.
3. Types of perforations.

The technic of this modified mastoid operation will be given step by step with some of the more important phases being illustrated with drawings.

COURSE 363

Room 732 Periods W-6; Th.-6

J. D. SINGLETON, M.D.
Dallas, Texas

The Temporal Bone: An Anatomic and Clinical Study

The course will consist of a brief review of the practical surgical anatomy of the temporal bone, and a discussion of the technic of the simple, modified radical and radical mastoidectomy, postauricular approach; in discussing the technic of these operations the more difficult phases will be emphasized.

The anatomy of the overlying soft parts including the sensory nerve supply, and the technic and indications for local anesthesia in mastoid surgery will be discussed briefly.

Important external and internal landmarks will be discussed in some detail. The origin, route of extension, important relations, and final termination of unusual cell groups and the separation of cells by dense septa into more or less isolated groups will be described in considerable detail.

A complete description of the course and relations of the facial nerve in the middle ear and mastoid portions of the temporal bone, and the surgical technic necessary to avoid injury to the nerve in the various operations will be given and stressed.

Numerous photographic and roentgenographic slides will be shown during the course of the lecture.

COURSE 364

Room 732 Periods M-4;T-4; W-4; Th.-4

MAURICE F. SNITMAN, M.D.
Chicago, Ill.

Surgical Anatomy of the Neck

I. Introduction:
  Head position.
II. Skin and Platysma Myoides.
III. Superficial Veins.
IV. Fasciae and Loose Connective Tissue.
  Viscero-vertebral Angle.
  Dee Neck Infections.
V. Triangles of the Neck.
VI. Submental Triangle.
  Thyroglossal Cyst and Fistula.
VII. Submaxillary (Digastric) Triangle.
  Removal of Submaxillary Salivary Gland.
  Ligation of Lingual Artery.
  Approach to Parapharyngeal Abscess.
VIII. Carotid Triangle.
  Ligation of Carotid Arteries and Internal Jugular vein.
  Removal of Bronchial Cyst.
IX. Parotid Region.
  Removal of Mixed Tumor of Parotid.
X. Muscular Triangle.
  Tracheotomy.
  Laryngofissure.
  Laryngectomy.
  Removal of Pharyngeal Diverticulum.

COURSE 365

Room 732 Periods M-6; T-6

LAVERNE B. SPAKE, M.D.
Kansas City, Kansas

The Submucous Operation

I. Anatomy:
  (a) Blood supply.
  (b) Nerve supply.
II. The indication for the operation.
III. The surgical procedure:
  (a) Different type incisions.
  (b) Instruments used.
  (c) Anesthesia.
  (d) Pre and Postoperative care.
  (e) Complications.
  (f) Perforation and care of.

COURSE 366

Room 732 Periods M-5; T-5; W-5; Th.-5

CLAIRE L. STRAITH, M.D.
Detroit, Mich.
BY INVITATION
WAYNE B. SLAUGHTER, M.D.
Chicago, Ill.
BY INVITATION

Plastic Surgery of Facial Injuries

The treatment of all acutely injured persons must follow a rather definite course, the purpose of which is to give a maximum of benefit to the patient. To obtain this maximum benefit requires adherence to certain fundamental surgical principles, outlined as follows: (Illustrated with Kodachrome slides and movies).

1. Treatment of impending shock or actual shock.
2. Prevention of additional contamination and trauma to the wound. (Use of antiseptics).
3. Estimation of the patient's general condition and recognition of the presence of multiple injuries.
4. Cleansing of the wound. (Prevention of "tattoo" marks, removal of foreign bodies, etc.)
5. Surgical care. In plastic surgery of the face certain problems are encountered peculiar to this region. These points will be stressed, together with emphasis on fixation of fractures, suturing of wounds and reconstructive procedures for recent or old injuries.
6. After care.

COURSE 367

Room 739 Periods M-5; T-5

J. A. SULLIVAN, M.D.
Toronto, Ontario

Recent Advances in Surgical Repair of the Facial Nerve

The surgical anatomy of the facial nerve within the temporal bone and parotid gland will be briefly described and demonstrated by means of slides and specimens.

The common sites for injuries to the facial nerve in the mastoid operation will be discussed, based on two hundred and fifty facial nerve grafting operations over a period of eleven years. The question of when and when not to use a nerve graft will be described.

The advances in repair of peripheral nerves as a result of experiences in this War and its application to injuries to the facial nerve will be considered, particularly in respect to sutures versus plasma.

A brief review of Bell's Palsy and what we can do for that particular lesion.

Finally, the maximum results we can expect from this advance in Otologic Surgery.

COURSE 368

Room 738 Periods W-4; Th.-4

WALTER H. THEOBALD, M.D.
Chicago, Ill.

Infections of the Epipharynx Pathology, Etiology and Clinical Aspects With Special Reference to Treatment

The term, Thornwaldt's disease, is used in a broad sense to apply to all congenital and acquired fistulas, cysts and abscesses which occur in the epipharyngeal vault.

This area deserves routine examination and should be given careful study in cases of postnasal discharge, chronic or recurrent pharyngitis—persistent fevers, bleeding, cough, asthma, etc.

Direct examination of the epipharynx is simple and easily performed with the Yankhauer speculum. This will be demonstrated by movie films. The management and method of treatment both local and surgical will be discussed.

COURSE 369

Room 739 Periods M-4; T-6

THOMAS L. TOLAN, M.D.
Milwaukee, Wis.

The Hard of Hearing Child

Early detection of the hard of hearing child in the pre-school age and lower grades. Instructions to parents of the congenital deaf or severely hard of hearing child. Treatment of infections causing or aggravating deafness.

A. Ears—results with chemotherapy, penicillin, radium and surgery.
B. Nose and throat—results with chemotherapy, penicillin, radium and surgery.

Education of the hard of hearing child —pre-school age and school age.

Discussion—when lip reading and hearing aids should be used in children.

Psychological aspects of the hard of hearing child.

COURSE 370

Room 739 Periods W-5; Th.-5

EDWARD H. TRUEX, JR., M.D.
Hartford, Conn.

A Simple and Safe Technic for Taking Earmold Impressions

The impression material consists of a powdered plastic and a liquid. They are mixed in the proper proportions at the time of the operation and kneaded into the external canal and auricle which require no preliminary preparation. In ten minutes the mixture becomes rubbery in consistency and is extracted easily from the canal.

The finished impression can be transported to the dental technician for immediate processing or if delay is necessary, a permanent positive can be made from the impression within a few minutes.

The method is simple in that it requires no unusual apparatus or space. It is safe, having been used at Deshon General Hospital about 5,000 times without a single complication or untoward effect.

A discussion and practical demonstration of the technic will be presented.

COURSE 372
Room 788 Periods M-4; T-4; W-4; Th.-4
O. E. VAN ALYEA, M.D.
Chicago, Ill.

The Embryology of the Ear, Nose and Throat

I. Embryonic Stage:

During the first 8 weeks of intrauterine life, the structures which compose the ear, nose and throat are in the formative stage of development. The major changes which take place at this time will be considered step by step by means of lantern slides and wax reconstructions.

II. Fetal Stage:

The changes which occur from the 8th week on are of especial interest to the otolaryngologist. In this course considerable time will be devoted to the study of serial sections made from fetal heads of various ages with especial emphasis on those periods which deal with the origin and development of the nasal sinuses.

III. Congenital Defects:

These occur largely as a result of growth defects in the early formative stages of the embryo. Anomalies of the various types encountered in clinical practice will be studied by means of lantern slide projections of charts, x-rays, photographs, and specimens from the cadaver.

COURSE 373
Room 739 Periods M-6; W-6
RICHARD WALDAPFEL, M.D.
Grand Junction, Colo.

Cervical Mediastinotomy

The instructional course will include: History of the operation. Definition. Signs and symptoms of mediastinitis. Etiology. Course and prognosis of mediastinitis without and with surgical intervention. X-ray interpretation by the laryngologist. Brief anatomy of the cervical fascia and of the tissue spaces of the neck. Clinical examination. Indication for the operation. The operation. Results and conclusions.

COURSE 374
Room 727 Periods M-5; T-5; W-5; Th.-5
THEODORE E. WALSH, M.D.
St. Louis, Mo.

Treatment and Prevention of Acute Rhinitis

Acute Rhinitis is considered under two heads:

a. Infectious
b. Vasomotor

Infectious:

Pathogenesis of infectious rhinitis is discussed in relation to the defense mechanisms. Viral and bacterial infections are compared:

Rationale of preventive therapy is outlined and experimental and clinical data presented.

The Pathology of infectious rhinitis is discussed and therapeutic measures appropriate to the pathologic stages are outlined.

Vasomotor:

Vasomotor rhinitis in relation to allergy and endocrine imbalance is discussed briefly.

COURSE 375
Room 727 Periods M-6; T-6; W-6; Th.-6
HENRY L. WILLIAMS, M.D.
Rochester, Minn.

Headache from the Standpoint of the Otorhinologist

An attempt at a fresh approach to the differential diagnosis and treatment of headache will be made by considering the pain-sensitive structures in the head and the manner in which they may be stimulated in certain conditions. The more difficult differential diagnoses, especially those of major importance to the otologist and rhinologist will be out-

lined. The treatment of those headaches which appear to be due to physicial allergy will be stressed because they have suffered from considerable therapeutic neglect and they are of the type apt to cause the patient to consult the otorhinologist.

COURSE 376

Room 795 Periods M-4; T-4; W-4; Th.-4

FLETCHER D. WOODWARD, M.D.
Charlottesville, Va.

The Treatment of Maxillary and Frontal Sinus Infections

The course is designed to cover the treatment of acute, subacute, and chronic infections of the maxillary and frontal sinuses. The importance of bacteriological studies along with roentgenographic and other diagnostic procedures will be discussed. The medical and surgical measures currently employed will be correlated to the physiological and pathological changes present.

A good history, careful examination, and proper understanding of physiological and pathological changes will enable one to plan and carry out effective treatment, which will restore the sinuses to normal in a very short time, in all acute and subacute infections and greatly ameliorate chronic disease. The persistent public impression of "Once a sinus, always a sinus" and "If a sinus is punctured, it will never recover", has been groundless now for many years.

COURSE 377

Room 738 Periods W-5; Th.-5

WAITMAN F. ZINN, M.D.
Baltimore, Maryland

Diagnosis and Treatment of Cancer of the Larynx

The early diagnosis of cancer of the larynx is of the utmost importance. Hoarseness is the most predominant symptom. The diagnostic procedure includes the following:

1. Complete history.
2. Indirect examination.
3. External examination of neck for palpable glands.
4. X-ray of larynx.
5. Laboratory check-up.
6. Direct laryngoscopy for biopsy; histological report.
7. Complete physical examination before surgery.

The treatment will depend upon the extent of the disease. Intrinsic cases are operable and extrinsic cases inoperable.

Operative cases:

Anesthesia.

Type of surgical technic (explanation of steps).

Methods of closure of hypopharynx.

Type of drainage.

Application of proper dressing.

Inoperable cases:

Deep x-ray therapy should be considered for all cases in which surgery is contraindicated.

Consideration of best type of pseudovoice; methods of teaching.

The Following Are Condensed Schedules of Courses Previously Described, Arranged for Your Convenience by Days and Periods

CONTINUOUS COURSES — OPHTHALMOLOGY

COURSE	SPEAKERS	TITLE	PERIODS USED
1	Adler and Leopold	Patho-Physiology of Ocular Movements	6 PERIODS T-2, T-3, W-2, W-3, Th.-2, Th.-3
2	Bedell	Medical Ophthalmoscopy	4 PERIODS T-1, W-1, Th.-1, F-1
3	Castroviejo	Corneal Surgery	3 PERIODS T-1, W-1, F-1
4 or 5	Cordes	Cataract Types	2 PERIODS T-1, T-2 or W-1, W-2
6	Dunnington	Surgery of the Eyelids and Orbit	3 PERIODS T-3, W-3, Th.-3
7	Falls and Cotterman	Heredity in Ophthalmology	2 PERIODS T-1, T-2
8	Fralick and Crosby	Anatomy of the Orbit	4 PERIODS T-1, T-2, W-1, W-2
9	Friedenwald	Mechanism in Formation of Aqueous	2 PERIODS Th.-1, Th.-2
10 or 11	Hardy and Rand	Color Vision—Testing	2 PERIODS T-2, T-3 or W-2, W-3
12	Hardy, et al.	Orthoptics	6 PERIODS T-1, T-2, W-1, W-2, Th.-1, Th.-2
13	Koch	Systemic Hypertensive Disease	2 PERIODS W-1, W-2
14 or 15	Kronfeld	Gonioscopy	2 PERIODS Th.-1, Th.-2 or F-1, F-2
16	Kuhn, et al.	Industrial Ophthalmology	9 PERIODS W-1, W-2, W-3, Th.-1, Th.-2, Th.-3, F-1, F-2, F-3
17	Lyle	Neuro-Ophthalmology	6 PERIODS T-1, T-2, W-1, W-2, Th.-1, Th.-2
18	McLean and Guyton	Cataract Surgery	8 PERIODS T-2, T-3, W-2, W-3, Th.-2, Th.-3, F-2, F-3
19	Masters, et al.	Slit Lamp Biomicroscopy	9 PERIODS T-1, T-2, T-3, W-1, W-2, W-3, Th.-1, Th.-2, Th.-3
20	Meyer, et al	Glaucoma	9 PERIODS W-1, W-2, W-3, Th.-1, Th.-2, Th.-3, F-1, F-2, F-3
21	Prangen, et al.	Refraction	12 PERIODS T-1, T-2, T-3, W-1, W-2, W-3, Th.-1, Th.-2, Th.-3, F-1, F-2, F-3
22 or 23	Rones	Corneal Dystrophies	2 PERIODS W-1, W-2 or F-1, F-2
24	Rucker	Eye Changes of Central Origin	4 PERIODS T-1, W-1, Th.-1, F-1
25 or 26	Spaeth	Plastic Surgery	2 PERIODS Th-1, Th.-2, F-1, F-2
27	Theobald, et al.	Pathology	12 PERIODS T-1, T-2, T-3, W-1, W-2, W-3, Th.-1, Th.-2, Th.-3, F-1, F-2, F-3
28 or 29	Walls	Color Vision	2 PERIODS Th.-2, Th.-3 or F-2, F-3
30	Brown and Aebli	(Jas. Watson White Mem. Ext. Course) Ocular Motor Anomalies	4 PERIODS T-3, W-3, Th.-3, F-3
31	Brown, et al.	(Jas. W. White Memorial Course) Anomalies of Extraocular Muscles	8 PERIODS T-1, T-2, W-1, W-2, Th.-1, Th.-2, F-1, F-2
32	Woods	Medical Ophthalmology	4 PERIODS T-3, W-3, Th.-3, F-3

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Tuesday

Key T-1 Period: 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
201	Allen, J.	Bacteriology — Office Tests and Treatment
203	Bahn	Fundamentals of Ophthalmic Diagnosis
208	Billingsley	Headaches, Head Pains, Ocular Origin
215	Carroll	Optic Neuritis
232	Heath	Chemotherapy
236	Joy	Importance of Pupil in Diagnosis
238	Keyes	Retinal Vascular Disease
243	Lemoine	Allergies in Ophthalmology
258	Regan	Various Tests for Astigmatism
266	Smith	Practical Office Pointers
268	Sterling	Lens—Types
277	Whalman	Preparation of Patient for Eye Surgery

Key T-2 Period: 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
205	Berens	Uveitis—Etiology and Treatment
209	Boeder	Aniseikonia—Practical
217	Clark	Evaluation of Possibilities in Cataract Surgery
218	Copeland	Streak Retinoscopy
228	Gibson	End Results in Retinal Detachment
245	Lillie	Pre-Chiasmal Syndrome
267	Snydacker	Treatment of Vertical Phorias
269	Stine	Retinal Detachment
270	Struble	Intraocular Foreign Bodies
271	Swan	Cycloplegias
272	Terry	Recent Trends Developmental Ocular Anomalies
274	Thygeson	Herpetic Viruses — Ocular Manifestations

Key T-3 Period: 11:30 p.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
207	Berliner	Office Value Slit Lamp Microscopy
213	Burch, Edw	Anesthesia in Ophthalmology
216	Casten	Practical Perimetry
219	Cox	Causes, Effects, Remedying Reading Difficulties
222	Daily	Physical Therapy in Ophthalmology
230	Gundersen	Atypical Corneal Lesions
231	Haessler	Ocular Tuberculosis
235	Irvine	Manifest Refraction
239	Keyes	An Appraisal of Penicillin in Ophthalmology
249	Lloyd	Hereditary Fundus Lesions
252	Mangold	Optician's Part in Fitting Glasses
254	Moore	Management of Intraocular Foreign Bodies
261	Rychener	Lacrimal Apparatus
264	Sheard	Eye: Physical, Optical Data and Considerations

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Wednesday

Key W-1 Period: 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
201	Allen, J.	Bacteriology — Office Tests and Treatment
208	Billingsley	Headaches, Head Pains, Ocular Origin
215	Carroll	Optic Neuritis
226	Gemeroy	External Diseases of Eye
232	Heath	Chemotherapy
236	Joy	Importance of Pupil in Diagnosis
238	Keyes	Retinal Vascular Disease
243	Lemoine	Allergies in Ophthalmology
244	Lepard	Juvenile Cataract—Soft Cataract: Treatment
253	Meyer	Retinal Detachment
258	Regan	Various Tests for Astigmatism
266	Smith	Practical Office Pointers
277	Whalman	Preparation of Patient for Eye Surgery

Key W-2 Period: 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
205	Berens	Uveitis—Etiology and Treatment
209	Boeder	Aniseikonia—Practical
217	Clark	Evaluation of Possibilities in Cataract Surgery
218	Copeland	Streak Retinoscopy
228	Gibson	End Results in Retinal Detachment
233	Hughes	Hyperphoria
240	Kirby	Traumatic and Complicated Cataract
246	Lillie	Chiasmal Syndrome
265	Shipman	Hypermetropia
269	Stine	Retinal Detachment
272	Terry	Recent Trends Developmental Ocular Anomalies

Key W-3 Period: 11:30 p.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
207	Berliner	Office Value Slit Lamp Microscopy
216	Casten	Practical Perimetry
219	Cox	Causes, Effects, Remedying Reading Difficulties
221	Cutler	Surgery of Lid
222	Daily	Physical Therapy in Ophthalmology
231	Haessler	Ocular Tuberculosis
235	Irvine	Manifest Refraction
239	Keyes	Appraisal of Penicillin in Ophthalmology
250	Lloyd	Macular Lesions
254	Moore	Management of Intraocular Foreign Bodies
256	Paton	Corneal Surgery
260	Rutherford	Myopia
261	Rychener	Lacrimal Apparatus

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Thursday

Key Th.-1 Period: 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
203	Bahn	Fundamentals of Ophthalmic Diagnosis
204	Baird	Vitamins and Other Adjuncts to Diet
214	Burch, F. E.	Glaucoma—Choice of Surgery
220	Crisp	Cross Cylinders
223	Davies	Optic Discs — Comparison Clinical, Pathologic Changes
225	Gailey	Complications in Cataract Surgery—Treatment
229	Gifford	Surgery of Lacrimal Apparatus
257	Post	Care of Eye Surgical Instruments
259	Richardson	Office Management
268	Sterling	Lens—Types
273	Thomas	Diabetes and Blood Dyscrasia in Lesions of Eye

Key Th.-2 Period: 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
211	Brown	Vaccine and Serum Therapy in Ophthalmology
224	Davis	Psychology of Reading Disturbances
233	Hughes	Hyperphoria
237	Katz	Field Defects as Aid in Localization Cerebral Pathology
247	Lillie	Optic Tract and Radiation Syndromes
251	McAlester	Pigmentary Retinal Changes
262	Scheie	Injury to Iris and Ciliary Body
265	Shipman	Hypermetropia — Methods of Handling
270	Struble	Intraocular Foreign Bodies
274	Thygeson	Herpetic Viruses — Ocular Manifestations

Key Th.-3 Period: 11:30 p.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
207	Berliner	Office Value Slit Lamp Microscopy
210	Bogart	Corneal and Conjunctival Burns
212	Bruner	Visual Aids
221	Cutler	Surgery of the Lid
226	Gemeroy	External Diseases of Eye
230	Gundersen	Atypical Corneal Lesions
242	Lebensohn	Visual Physiology
255	Morrison	Malingering
256	Paton	Corneal Surgery
260	Rutherford	Myopia
263	Scobee	Heterophoria — Significance — Interpretation
264	Sheard	Eye: Physical, Optical Data — Considerations
275	Town	Difficulties with Contact Lens Fittings

SCHEDULE OF INDIVIDUAL COURSES — OPHTHALMOLOGY — Friday

Key F-1 Period: 9:00 a.m. to 10:00 a.m.

Course No.	SPEAKER	SUBJECT
204	Baird	Vitamins and Other Adjuncts to Diet
214	Burch, F.	Glaucoma—Choice of Surgery
220	Crisp	Cross Cylinders
223	Davies	Optic Discs — Comparison Clinical, Pathologic Changes
229	Gifford	Surgery of Lacrimal Apparatus
241	Koch	Photography—Fundus
253	Meyer	Retinal Detachment
257	Post	Care of Eye Surgical Instruments
258	Regan	Various Tests for Astigmatism
259	Richardson	Office Management
273	Thomas	Diabetes and Blood Dyscrasia in Lesions of Eye
278	Whitney	Enucleation and Evisceration

Key F-2 Period: 10:15 a.m. to 11:15 a.m.

Course No.	SPEAKER	SUBJECT
202	Allen, T. D.	Presbyopia
206	Berens	Instruments—New—Surgical
211	Brown	Vaccine and Serum Therapy in Ophthalmology
224	Davis	Psychology of Reading Disturbances
234	Hughes	Photography — Motion Pictures
237	Katz	Field Defects as Aid in Localization Cerebral Pathology
248	Lillie	Diplopia
251	McAlester	Pigmentary Retinal Changes
262	Scheie	Injury to Iris and Ciliary Body
267	Snydacker	Treatment of Vertical Phorias
271	Swan	Cycloplegias

Key F-3 Period: 11:30 a.m. to 12:30 p.m.

Course No.	SPEAKER	SUBJECT
207	Berliner	Office Value Slit Lamp Microscopy
210	Bogart	Corneal and Conjunctival Burns
212	Bruner	Visual Aids
213	Burch, Edw	Anesthesia in Ophthalmology
227	Gemeroy	Anterior Segment Photography of Eye
242	Lebensohn	Visual Physiology
252	Mangold	Optician's Part in Fitting Glasses
255	Morrison	Malingering
263	Scobee	Heterophoria: Significance—Interpretation

CONTINUOUS COURSES — OTOLARYNGOLOGY

COURSE	SPEAKERS	TITLE	PERIODS USED
51 or 52	Blocker	Reconstruction of Contour in Defects of the Face	2 PERIODS M-4, M-5 or T-4, T-5
53 or 54	Brown	Facio-maxillary Surgery	2 PERIODS W-4, W-5, or Th.-4, Th.-5
55	Carhart	Audiometric Technic and Fitting of Hearing Aids	3 PERIODS T-6, W-6, Th.-6
58	Clerf	Causes of Hoarseness—Treatment	3 PERIODS M-6, T-6, W-6
59 or 60 or 61	Crowe	Anatomy, Physiology, Pathology of Nasopharynx, Eustachian Tube and Middle Ear	2 PERIODS M-4, M-5 or T-4, T-5 or W-4, W-5
62 or 63	Cullen	Anesthesia in Otolaryngology	2 PERIODS T-4, T-5 or W-4, W-5
64 or 65	Dean	Anatomy of Brain and Cranial Nerves in Relation to Nose, Throat, Larynx and Esophagus	2 PERIODS W-4, W-5 or Th.-4, Th.-5
66 or 67 or 68	Figi	Plastic Surgery in Otolaryngology	2 PERIODS T-4, T-5 or W-4, W-5 or Th.-4, Th.-5
69	Fowler	Histology of the Ear	6 PERIODS M-4, M-5, T-4, T-5, W-4, W-5
70	Hoerr	Anatomy of the Ear, Nose, Throat	3 PERIODS M-6, T-6, W-6
71 or 72	Huffman	Plastic Reconstruction of the Nasal Septum	2 PERIODS M-4, M-5 or Th.-5, Th.-6
73 or 74 or 75 or 76	Lempert	Modern Temporal Bone Surgery	2 PERIODS M-4, M-5 or T-4, T-5 or W-4, W-5 or Th.-4, Th.-5
77 or 78	Meltzer	Conservative Discussion of Fenestration Operation	2 PERIODS W-5, W-6 or Th.-5, Th.-6
79 or 80 or 81 or 82	Mueller	Practical Audiometry	2 PERIODS M-5, M-6 or T-5, T-6 or W-5, W-6 or Th.-5, Th.-6
83 or 84 or 85 or 86	Scheldrup	Anatomy of the Neck	2 PERIODS M-5, M-6 or T-5, T-6 or W-5, W-6 or Th.-5, Th.-6

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Monday

Key M - 4 Period: 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
301	Ashley	Desensitization Therapy in Chronic Sinusitis
306	Boies	Current Problems in Otology
319	Glick	The Fenestration Operation
320	Goodyear	Acute and Chronic Infections of Nasal Sinuses
324	Hill	Chronic Conditions of Maxillary Antrum
328	House	Endaural Approach to Temporal Bone Surgery
333	Kopetzky	Systemic Dysfunctions Among the Deafened
336	Lundy	Anesthetics and Technic in Administration
343	Moore	Lesions of the Mouth
348	Proetz	Nasal Treatment and Surgery
358	Senturia	External Otitis
360	Shea	Therapy of Histamine and Nicotinic Acid
364	Snitman	Surgical Anatomy of Neck
369	Tolan	Hard of Hearing Child
372	Van Alyea	Embryology of Ear, Nose and Throat
376	Woodward	Maxillary and Frontal Sinus Infections

Key M - 5 Period: 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
302	Baker	Otitis Media — Sinusitis as Seen by the Neurosurgeon
307	Brown	Frontal Sinusitis
316	Galloway	Respiratory Obstruction, Bulbar Poliomyelitis, Anoxia
326	Hollender	Pathology, Treatment of Nasopharyngeal Diseases
327	Horton	Headaches and Head Pains
329	Jackson	Technic in Bronchoscopy
334	Kos	Interpretations of Vestibular Tests in Office Practice
335	Lindsay	Vertigo from Otological Standpoint
338	McMahon	Facts and Fallacies of Intranasal Medication
350	Reger	Selection of Hearing Aids
352	Robb	Problems of Office Practice
353	Roberts	Therapy in Otolaryngology
355	Salinger	Nasal Fractures
361	Shea	Modern Treatment — Infections of Ear, Nose and Throat
366	Straith and Slaughter	Plastic Surgery of Facial Injuries
367	Sullivan	Surgical Repair of Facial Nerve
374	Walsh	Prevention and Treatment of Acute Rhinitis

Key M - 6 Period: 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
303	Beck	Common Disorders in Office and Hospital Practice
309	Canfield	Rehabilitation of the Deafened
311	Cunning	Laryngeal Tumors
318	Gittins	Headache, Neuralgia and Vertigo
322	Hampton	Allergy in Relation to Otolaryngology
323	Hansel	Allergy of Nose and Paranasal Sinuses
325	Holinger	Management of Diseases of Esophagus
331	Johnston	Office Procedures and Remedies in Otolaryngology
336	Lundy	Anesthetics and Technic in Administration
339	McNally	Indications, Clinical Applications Labyrinthine Tests
341	Maxwell	Complications of Frontal Sinus Infections
344	Mosher	My Milestones
351	Reger	Functional Hearing Tests
354	Robison	Lymphatic System Applied to Otorhinology
359	Shambaugh	Fenestration Operation
365	Spake	Submucous Operation
373	Waldapfel	Cervical Mediastinotomy
375	Williams	Headache and the Otorhinologist

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Tuesday

Key T - 4 Period: 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
304	Blaisdell	Bronchography
306	Boies	Current Problems in Otology
315	Furstenberg	Organic Neurology in Rhinolaryngology
319	Glick	Fenestration Operation
320	Goodyear	Acute and Chronic Infections of Nasal Sinuses
324	Hill	Chronic Conditions of Maxillary Antrum
328	House	Endaural Approach to Temporal Bone Surgery
333	Kopetzky	Systemic Dysfunctions Among the Deafened
343	Moore	Lesions of the Mouth
345	Nash	Functional Diseases of Nose
348	Proetz	Nasal Treatment and Surgery
357	Sellers	Headaches of Otorhinologic Origin
358	Senturia	External Otitis
360	Shea	Therapy of Histamine and Nicotinic Acid
364	Snitman	Surgical Anatomy of the Neck
372	Van Alyea	Embryology of Ear, Nose, Throat
376	Woodward	Treatment of Maxillary and Frontal Sinus Infections

Key T - 5 Periods: 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
302	Baker	Otitis Media and Sinusitis as Seen by the Neurosurgeon
307	Brown	Frontal Sinusitis
316	Galloway	Respiratory Obstruction, Bulbar Poliomyelitis, Anoxia
317	Gill	Fractures of Facial Bones
321	Grove	Otoneurology of Head Injuries
327	Horton	Headaches and Head Pains
329	Jackson	Problems of Technic in Bronchoscopy
334	Kos	Vestibular Tests in Office Practice
335	Lindsay	Vertigo from the Otological Standpoint
338	McMahon	Facts and Fallacies of Intranasal Medication
350	Reger	Selection of Hearing Aids
353	Roberts	Therapy in Otolaryngology
355	Salinger	Nasal Fractures
361	Shea	Modern Treatment of Infections Ear, Nose, Throat
366	Streith and Slaughter	Plastic Surgery of Facial Injuries
367	Sullivan	Surgical Repair of Facial Nerve
374	Walsh	Prevention and Treatment of Acute Rhinitis

Key T - 6 Period: 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
303	Beck	Common Disorders in Office and Hospital Practice
309	Canfield	Rehabilitation of Deafened
311	Cunning	Laryngeal Tumors, Diagnosis, Treatment
313	Dixon	Acute and Chronic Sinusitis
318	Gittins	Headache, Neuralgia and Vertigo
323	Hansel	Allergy of Nose and Paranasal Sinuses
326	Hollender	Pathology, Treatment Nasopharyngeal Diseases
331	Johnston	Office Procedures and Remedies in Otolaryngology
339	McNally	Indications, Clinical Applications Labyrinthine Tests
341	Maxwell	Complications of Frontal Sinus Infections
346	Nesbit	Surgical Shortcuts in Field of Otolaryngology
351	Reger	Technic, Interpretation of Functional Hearing Tests
354	Robison	Lymphatic System Applied to Otorhinology
359	Shambaugh	Fenestration Operation
365	Spake	Submucous Operation
369	Tolan	Hard of Hearing Child
375	Williams	Headache from Standpoint of the Otorhinologist

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Wednesday

Key W - 4 Period: 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
301	Ashley	Desensitization Therapy in Chronic Sinusitis
306	Boies	Current Problems in Otology
315	Furstenberg	Organic Neurology in Rhinolaryngology
319	Glick	Fenestration Operation
324	Hill	Chronic Conditions of Maxillary Antrum
328	House	Endaural Approach to Temporal Bone Surgery
342	Miller	Acute Diseases of Epiglottis
343	Moore	Lesions of the Mouth
345	Nash	Functional Diseases of Nose
347	Perlman	Quantitative Tests of Eustachian Tube Function
348	Proetz	Nasal Treatment and Surgery
349	Rawlins	Allergic Sinusitis
357	Sellers	Headaches of Otorhinologic Origin
358	Senturia	External Otitis
364	Snitman	Surgical Anatomy of Neck
368	Theobald	Infections of Epipharynx
372	Van Alyea	Embryology of Ear, Nose, Throat
376	Woodward	Treatment of Maxillary and Frontal Sinus Infections

Key W - 5 Period: 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
302	Baker	Otitis Media and Sinusitis as Seen by the Neurosurgeon
310	Costen	Diagnosis of Mandibular Joint Neuralgias
312	Decker	Management of Early Deafness
317	Gill	Fractures of Facial Bones
321	Grove	Otoneurology of Head Injuries
327	Horton	Headaches and Head Pains
330	Jackson	Surgery of the Larynx
335	Lindsay	Vertigo from Otological Standpoint
337	McCaskey	Neck Surgery in Otolaryngology
340	McReynolds	Technic and Importance of Bronchography
350	Reger	Selection of Hearing Aids
352	Robb	Problems of Office Practice
355	Salinger	Nasal Fractures
366	Straith and Slaughter	Plastic Surgery of Facial Injuries
370	Truex	Simple, Safe Technic Taking Earmold Impressions
374	Walsh	Prevention and Treatment of Acute Rhinitis
377	Zinn	Cancer of Larynx

Key W - 6 Period: 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
303	Beck	Common Disorders in Office and Hospital Practice
305	Blassingame	Congenital Cysts and Fistulae of Head and Neck
308	Brunner	Pathology and Diagnosis Labyrinthine Fistula
313	Dixon	Acute and Chronic Sinusitis
318	Gittins	Headache, Neuralgia and Vertigo
323	Hansel	Allergy of Nose and Paranasal Sinuses
326	Hollender	Pathology, Treatment, Nasopharyngeal Diseases
332	Kinney	Practical Office Audiometry
339	McNally	Indications, Clinical Applications, Labyrinthine Tests
341	Maxwell	Complications Frontal Sinus Infections
346	Nesbit	Surgical Shortcuts in Otolaryngology
351	Reger	Technic and Interpretation Functional Hearing Tests
356	Schall	Cancer Upper Respiratory Tract
359	Shambaugh	Fenestration Operation
362	Simpson	Semi-Radical Mastoid Operation
363	Singleton	Anatomic, Clinical Study Temporal Bone
373	Waldapfel	Cervical Mediastinotomy
375	Williams	Headache from Standpoint of Otorhinologist

SCHEDULE OF INDIVIDUAL COURSES — OTOLARYNGOLOGY — Thursday

Key Th.- 4 Period: 2:00 p.m. to 3:00 p.m.

Course No.	SPEAKER	SUBJECT
304	Blaisdell	Bronchography
305	Blassingame	Congenital Cysts and Fistulae Head and Neck
306	Boies	Current Problems in Otology
315	Furstenberg	Organic Neurology in Rhinolaryngology
319	Glick	Fenestration Operation
324	Hill	Chronic Conditions of Maxillary Antrum
328	House	Endaural Approach to Temporal Bone Surgery
342	Miller	Acute Diseases of Epiglottis
343	Moore	Lesions of the Mouth
345	Nash	Functional Diseases of Nose
347	Perlman	Quantitative Tests Eustachian Tube Function
348	Proetz	Nasal Treatment and Surgery
349	Rawlins	Allergic Sinusitis
357	Sellers	Headaches of Otorhinologic Origin
358	Senturia	External Otitis
364	Snitman	Surgical Anatomy of Neck
368	Theobald	Infections of Epipharynx
372	Van Alyea	Embryology of Ear, Nose, Throat
376	Woodward	Treatment of Maxillary and Frontal Sinus Infections

Key Th.- 5 Period: 3:15 p.m. to 4:15 p.m.

Course No.	SPEAKER	SUBJECT
310	Costen	Diagnosis Mandibular Joint Neuralgias
312.	Decker	Management Early Deafness
317	Gill	Fractures of Facial Bones
321	Grove	Otoneurology of Head Injuries
327	Horton	Headaches and Head Pains
330	Jackson	Surgery of Larynx
335	Lindsay	Vertigo from Otological Standpoint
337	McCaskey	Neck Surgery in Otolaryngology
340	McReynolds	Technic and Importance of Bronchography
350	Reger	Selection of Hearing Aids
355	Salinger	Nasal Fractures
366	Straith and Slaughter	Plastic Surgery of Facial Injuries
370	Truex	Simple, Safe Technic Taking Earmold Impressions
374	Walsh	Prevention, Treatment Acute Rhinitis
377	Zinn	Cancer of Larynx

Key Th.- 6 Period: 4:30 p.m. to 5:30 p.m.

Course No.	SPEAKER	SUBJECT
303	Beck	Common Disorders in Office and Hospital Practice
308	Brunner	Pathology, Diagnosis Labyrinthine Fistula
313	Dixon	Acute and Chronic Sinusitis
318	Gittins	Headache, Neuralgia and Vertigo
322	Hampton	Allergy in Relation to Otolaryngology
323	Hansel	Allergy of Nose and Paranasal Sinuses
325	Holinger	Management of Diseases of Esophagus
332	Kinney	Practical Office Audiometry
339	McNally	Indications, Clinical Applications Labyrinthine Tests
341	Maxwell	Complications Frontal Sinus Infections
346	Nesbit	Surgical Shortcuts in Otolaryngology
351	Reger	Technic and Interpretation Functional Hearing Tests
356	Schall	Cancer Upper Respiratory Tract
359	Shambaugh	Fenestration Operation
362	Simpson	Semi-Radical Mastoid Operation
363	Singleton	Anatomic, Clinical Study Temporal Bone
375	Williams	Headache from Standpoint of Otorhinologist

BUSINESS MEETING

Grand Ball Room — 8 p.m.

WEDNESDAY, OCTOBER 16

Reports of Standing Committees will be read and later published in the November-December issue of the TRANSACTIONS. The Senior Member of the Council will report Council action upon Committee recommendations, because changes in Committee reports as recommended by the Council, or new business originating from the floor, must be referred to the Council for action.

ORDER OF BUSINESS

1. Call to order.
2. Report of Executive Secretary-Treasurer.
3. Report of Necrologist.
4. Report of Editor of TRANSACTIONS.
5. Committee reports.
6. Report of American Board of Ophthalmology.
7. Report of American Board of Otolaryngology.
8. Unfinished business.
9. New business.
10. Report of the Senior Member of the Council.
11. Election of Fellows.
12. Election of officers (Senior Member of Council report).

Candidates — 1945

The following candidates for Fellowship were approved by the Council, October 7, 1945. These candidates will be voted upon at the Business Meeting, Wednesday, October 16, 1946, at 8 o'clock, and when elected, their Fellowship shall become retroactive to 1945.

Ophthalmology (OP.)
Otolaryngology (ALR)
Plastic Surgery (PLS.)

Abrams, Murray, Major (MC), 100 Woodruff Ave., Brooklyn, N. Y., ALR.
Altmann, Franz, 10 East 85th St., New York, N. Y., ALR.
Ashley, Richard Warner, Major (MC), Address unknown, OP.
Atkins, Joseph Preston, 250 S. 18th St., Philadelphia, Pa., ALR.
Auslander, Milton Manuel, 1408 68th Ave., Philadelphia 26, Pa., ALR.

Bancks, Howard Raymond, 75 Lenox Rd., Brooklyn, N. Y., ALR.
Bau, Hyman William, 3216 W. Roosevelt Road, Chicago 24, Ill., ALR.
Beetham, William P., 108 Bay State Road, Boston, Mass., OP.
Bender, Rosarie Rossell, 195 Linwood Avenue, Buffalo, N. Y., ALR.
Bernasconi, Ezio Joseph, 716 River Ave., Providence, R. I., OP.
Black, Vernon Anderson, 105 Hawes St., Wharton, Texas, OP.
Bogdasarian, Robert Michael, 108 Oak St., Binghamton, N. Y., ALR.
Brennan, James William, 11 Horton Place, Buffalo, N. Y., OP.
Brikates, Peter, 140 East 54th St., New York, N. Y., OP.
Burman, Daniel, 121 First St., Newburgh, N. Y., ALR.
Busby, William, Jr., EENT Clinic, Fitzsimmons General Hosp., Denver, Colo., ALR.

Carey, Edward Thomas, Capt. (MC), A. P. O. 920, c/o Postmaster, San Francisco, Calif., ALR.
Cerny, Frank Joseph, Lt. (MC), Veterans Administration, Dayton, Ohio, OP.
Chamberlin, Ira Iowa, 4 Chestnut St., Springfield, Mass., ALR.
Chester, Lewis, 179 Allyn St., Hartford 3, Conn., ALR.
Chevigny, Julius James, 504 Broadway, Gary, Ind., ALR.
Cockrum, William Marion, 908 Hulman Bldg., Evansville, Ind., OP.
Cole, John Gordon, 780 Park Ave., New York, N. Y., OP.
Collins, Arthur D., 1007 Guardian Bldg., Cleveland 14, Ohio, OP.

Craig, Stuart Lessley, 135 East 65th St., New York 21, N. Y., ALR.
Crandall, Alan Slade, 313 S. 17th St., Philadelphia 3, Pa., OP.
Croll, Maurice, Capt. (MC), Mayo General Hosp., Galesburg, Ill., OP.
Crowe, Samuel James, Johns Hopkins Hospital, Baltimore, Md., ALR.
Cuthbert, Marvin Peare, Lt. (MC), 1610 SCU ASF Sta. Med. Act., Camp McCoy, Wis., OP.
Cutler, Max Helix, 636 Church St., Evanston, Ill., ALR.

Davis, Ralph Allison, 4753 Broadway, Chicago, Ill., OP.
Duclos, Gaston Normand, Capt. (RCAM C), No. 3 Du Moulin St., Drummondville, Que., Canada, ALR.

Ehrlich, Leon Herbert, 211 Central Park West, New York 24, N. Y., OP.
Eilert, John Harold, 391 E. 149th St., New York, N. Y., OP.
Elwyn, Herman, 239 Central Park West, New York, N. Y., OP.
Estlick, Richard E., 4223 Beaver Ave., Ft. Wayne, Ind., ALR.

Farmer, William Dempsey, Major (MC), 119 North Elm St., Greensboro, N. C., ALR.
Flack, Clarence Elbert, 715 Lake St., Oak Park, Ill., OP.
Flickinger, Roger R., Capt. (MC), Kennedy General Hospital, Memphis, Tenn., ALR.
Flora, William Kenneth, Capt. (MC), 720 Portage Rd., Cresson, Pa., ALR.
Fox, Nathan H., 4010 W. Madison, Chicago, Ill., OP.
Frazer, John Paul, 224 Aberdeen St., Rochester, N. Y., ALR.
Fried, Joseph John, 5 West 86th St., New York 24, N. Y., OP.

Gershon, Nathan Isaac, Lt. Comdr. (MC), 26 Linder Ave. N. E., Atlanta, Ga., ALR.
Goldhammer, Samuel, Republic Bldg., Denver 2, Colo., OP.
Gordon, Dan Morris, 525 E. 68th St., New York 21, N. Y., OP.
Graham, George Albert, 40 Prospect Park West, Brooklyn 15, N. Y., OP.
Gromet, Maurice T., 105 Lincoln Rd., Brooklyn 25, N. Y., ALR.
Guerry, Du Pont, 3rd, 503 Professional Bldg., Richmond, Va., OP.
Gunderson, Harvey Clifford, 2001 Collingwood Ave., Toledo, Ohio, ALR.
Gurwin, Bernard J., 900 Seventeenth N. W., Washington, D. C., OP.
Gutkin, Morton Lewis, Capt. (MC), 6734 Sixth Ave., Brooklyn, N. Y., ALR.

Hanson, A. George, 1528 Medical-Dental Bldg., Seattle 1, Wash., OP.
Harper, DeWitt Lawrence, 204 North Main, Greenville, S. C., ALR.
Helbling, Franklin Kirkland, 34 No. Ash St., Ventura, Calif., ALR.
Henderson, Charles Henry, 800 Park Ave., Norton, Va., OP.
Hipp, Walter, 140 East 54th St., New York 22, N. Y., OP.
Hooker, Lyle, 446 Esperson Bldg., Houston 2, Texas, OP.
Horsfield, Russell Thomas, 715 Medical-Dental Bldg., Seattle 1, Wash., OP.
Howley, Bartley Maxwell, Navy Dispensary, Navy Dept., Washington, D. C., ALR.

Jaeckle, Charles Eisele, Lt. (MC), Address unknown, OP.
Jervey, James W., Jr., 101 Church St., Greenville, S. C., OALR.
Johnson, Carl Cordes, 5 Bay State Road, Boston 15, Mass., OP.
Johnson, Hobart Clemens, 839 Belgrade Ave., Mankato, Minn., OP.
Johnson, Roger Harry, 522 Cobb Bldg., Seattle, Wash., OP.

Katzin, Herbert Maurice, 1148 Fifth Ave., New York 28, N. Y., OP.
Kelly, Francis B., 519 Med. Prof. Bldg., Corpus Christi, Texas, OP.
Kennon, Beverley Randolph, 3rd., 908 Medical Arts Bldg., Norfolk, Va., OP.
Kilmann, Martin H., 118 E. 54th St., New York 22, N. Y., OP.
Kuhn, Clifford W., Major (MC), 9545 S. W. 62nd Dr., Portland, Ore., ALR.
Kuntz, Herman William, 501 Hume-Mansur Bldg., Indianapolis, Ind., ALR.

Lee, Otis S., Jr., State University Hospitals, Iowa City, Iowa, OP.
Lenzen, Aloysius Francis, 222 Marquette St., LaSalle, Ill., OP.
Levin, Bert G., 1210 Lowry Bldg., St. Paul 5, Minn., ALR.
Lewis, Charles Kelley, 2109 Sterick Bldg., Memphis, Tenn., ALR.
Lieberman, George Emanuel, 4206 Chestnut St., Philadelphia, Pa., ALR.
Lodge, Edmund Anderson, 79½ Prospect St., Gloucester, Mass., ALR.

McEwen, James Woods, 670 Cherry St., Terre Haute, Ind., OP.
McKenzie, George Edward, 602 DuPont Bldg., Miami, Fla., ALR.

Maier, Haskel Levitt, 936 Medical Arts Bldg., Tacoma 2, Wash., ALR.
Mather, Homer Raymond, Jr., Capt. (MC), 172nd Station Hosp., A.P.O. 1007 c/o Postmaster, San Francisco, Calif., OP.
Meer, Nadhim Edward, Lt. (MC), Wyckoff, N. J., ALR.
Meyer, Monte F., 645 Canal Bldg., New Orleans, La., ALR.
Miears, Claude H., 713 Scarbrough, Austin, Texas, ALR.
Miller, Claude K., Widby-Hadley Bldg., Wenatchee, Wash., OP.
Miller, Harold Rexford, 114 E. 54th St., New York 22, N. Y., OP.
Minsky, Armen A., Capt. (MC), 4557 Portland Ave. S., Minneapolis, Minn., ALR.
Monsees, Wayne Emerson, 233 A St., San Diego, Calif., OP.
Morse, Leo M., 25 East Washington St., Suite 1523, Chicago, Ill., ALR.
Muirhead, Robert Mowatt, 8 East Broadway, Salt Lake City 1, Utah, ALR.
Munoz - MacCormick, Carlos Eduardo, Monterry Bldg., Park Terrace, Santurce, Puerto Rico, ALR.

Nantz, Frank A., 225 Bodmann Ave., Cincinnati, Ohio, OP.
Naugle, Thomas Calvert, 618 College St., Columbus, Miss., ALR.
Nicholson, Charles T., 422 Tyler Pl., Alexandria, Va., ALR.
Noonan, Paul Ecret, Capt. (MC), 238 N. Park Ave., Warren, Ohio, ALR.

Osherwitz, Morris Stanford, Capt. (MC), Address unknown, OP.
Ostrom, Louis, 124 18th St., Rock Island, Ill., ALR.

Paradis, Charles Ovide, 625 Cleveland Ave. N.W., Canton 3, Ohio, ALR.
Parker, Harry Caunter, 673 Broadway, Gary, Ind., ALR.
Parkinson, Harold O., 626 Flood Bldg., San Francisco, Calif., ALR.
Petix, Dominick Gilbert, 2615 Grand Concourse, Bronx, N. Y., OP.
Pfeiffer, Guy Oliver, 19-A South High St., Belleville, Ill., ALR.
Phillips, Warren Charles, 801 N. Second, Harrisburg, Pa., OP.
Pitkin, York Nones, Lt. Col. (MC), 10515 Carnegie Ave., Cleveland, Ohio, ALR.
Pohlman, David Alexander, Major (MC), Address unknown, ALR.
Popovich, Stephen J., 1930 Wilshire Blvd., Suite 617, Los Angeles, Calif., OP.
Price, F. Raymond, 118 Rutledge Ave., Charleston 16, S. C., OP.

Raggio, Francis Warren, Jr., Gordon Bldg., Lake Charles, La., ALR.
Rathgeber, Van D., 1305 Medical Arts Bldg., Ft. Worth, Texas, OP.
Ray, Joseph Carr, 914 Frances Bldg., Louisville, Ky., ALR.
Rein, Walter John, 501 E. Franklin St., Richmond, Va., OP.
Riesenbeck, Leo Henry, 831 Carew Tower, Cincinnati, Ohio, ALR.
Ripsteen, Joel Stanley, Capt. (MC), 4100 AAF BU, Patterson Field, Ohio, ALR.
Rohm, Jack Zeth, Lt. Comdr. (MC), Address unknown, ALR.
Roman, Stanley John, Capt. (MC), Sta. Hosp. EENT Clinic, Camp Grant, Ill., OALR.
Rosenberg, William, 25 E. Washington St., Rm. 1523, Chicago, Ill., OP.
Ross, Perry, W., Lt. Comdr. (MC), Address unknown, OP.
Royce, Thomas L., 904 Holman, Houston, Texas, ALR.
Rucker, Ralph Weller, Major (MC), Union Nat'l Bank Bldg., Bartlesville, Okla., ALR.
Ruehl, William W., 7106 Jenkins Arcade, Pittsburgh 22, Pa., ALR.

Sannella, Lee George, 124 Waterman, Providence, R. I., OP.
Schachat, Walter S., 720 West End Ave., New York 25, N. Y., OP.
Scovis, I. John, U. S. National Bank Bldg., The Dalles, Ore., OP.
Shepard, Willis, B., Miner Bldg., Eugene, Ore., ALR.
Shofstall, Charles K., Balcony Bldg., Kansas City 2, Mo., ALR.
Shroder, Luther Null, R.R. 5, Greenville, Ohio, ALR.
Siniscal, Arthur Alfred, M. Trachoma Hospital, Rolla, Mo., OP.
Sirles, Wayne Pulley, 4850 Scott Ave., St. Louis 10, Mo., ALR.
Skinner, Merton Byron, Major (MC), 55 E. Washington, Chicago, Ill., ALR.
Slaughter, Howard Clarence, 908 Hulman Bldg., Evansville, Ind., OP.
Sommer, Ignatius George, 981 S. Westmoreland, Los Angeles 6, Calif., OALR.

Southgate, Paul T., 302 Professional Bldg., Long Beach, Calif., OP.

Stagman, Joseph, 55 E. Washington St., Chicago, Ill., ALR.

Staman, Harry H., 49 W. Church St., Uniontown, Pa., ALR.

Stamm, Carl, 1737 Chestnut St., Philadelphia 3, Pa., ALR.

Staton, Younger A., Lt. (MC), USNR, Address unknown, OALR.

Steinberg, Nathan, 253 Sunrise Highway, Rockville Centre, N. Y., ALR.

Stelle, Harry L., 207 Commerce Bldg., Pittsburg, Kans., OALR.

Stolzar, Irwin H., Capt. (MC), 831 Guardian Bldg., Cleveland, Ohio, OP.

Surber, John Roger, 119 E. 74th St., New York 21, N. Y., ALR.

Swenson, Rudolph E., 1 Carver St., Plymouth, Mass., ALR.

Tait, Edwin Forbes, 1324 W. Main St., Norristown, Pa., OP.

Teasdale, Laurie Redmond, 311 Professional Bldg., Charleston, S. C., ALR.

Teixler, Victor Adolph, 224 Hume Mansur Bldg., Indianapolis, Ind., OP.

Thompson, Chase S., Capt. (MC), Regional Hospital SAACC, San Antonio, Texas, ALR.

Thornell, William Clyde, 1002 Carew Tower, Cincinnati, Ohio, ALR.

Tisher, Paul Winslow, 99 W. Main St., New Britain, Conn., OP.

Tobin, Henry Loughlin, 74 Front St., Binghamton, N. Y., OP.

Tulloch, George M., 410-12 McCulloch Bldg., Okmulgee, Okla., ALR.

U'ren, Harold Merle, 624 Medical Arts Bldg., Portland, Oregon, OP.

Viger, Roland Joseph, 1414 Drummond St., Montreal, P. Q., Canada, OP.

Voorhees, Darrell Graham, 135 E. 65th St., New York, N. Y., ALR.

Wall, Walton B., 111 West Adams St., Jacksonville, Fla., OP.

Webb, Walter Whayne, University Hospitals, Iowa City, Iowa, ALR.

Wilcoxen, William B., Lt. Col. (MC), Station Hospital, Fort Snelling 11, Minn., ALR.

Wild, Joseph Peter, 161 W. Wisconsin Ave., Milwaukee, Wis., ALR.

Wolff, Jerome Marshall, 822 Park Ave., Plainfield, N. J., OP.

Wood, George Harden, Petroleum Bldg., Big Spring, Texas, ALR.

Wright, R. Wesley, Major (MC), Atherton Ave., Atherton, Calif., ALR.

Zavalia, Alberto Urrets, 27 de Abril 244, Cordoba, Argentina, CP.

CANDIDATES — 1946

Objections to the election of a candidate must be filed with the Executive Secretary previous to Saturday, October 12, 1946.

CANDIDATES CERTIFICATED BY BOARDS

Ophthalmology (Op.)
Otolaryngology (ALR)
Plastic Surgery (Pl.S.)

Aagesen, Walter J., 622 Citizens Bank Bldg., Anderson, Ind., ALR.

Abrams, Henry, 195 Nassau St., Princeton, N. J., Op.

Agatston, Howard James, 57 West 57th St., New York 19, N. Y., Op.

Allen, Benjamin Israel, 1070 Park Ave., New York, N. Y., ALR.

Alpert, Max, 881 Lafayette St., Bridgeport, Conn., ALR.

Alter, Francis William, Jr., 23 Second Ave., San Mateo, Calif., ALR.

Amdur, Louis A., 2540 Boulevard, 15 Exch. Place, Jersey City 4, N. J., Op.

Anderson, Ernest Richard V., 1052 W. Sixth St., Los Angeles 14, Calif., ALR.

Arnold, Leon M., 1235 Park Ave., New York 28, N. Y., ALR.

Auten, Hanford Louis, Jr., Dartmouth Eye Institute, Hanover, N. H., Op.

Baker, Lauchlin J., 310 Franklin St., Ogdensburg, N. Y., ALR.

Barnaby, Henry C., Capt. (M.C.), Walter Reed General Hospital, Washington, D. C., ALR.

Barnet, Emmanuel, 214 W. Grand Ave., Wisconsin Rapids, Wis., ALR.

Bauer, Charles E., 11 Cannon St., Poughkeepsie, N. Y., Op.

Bellucci, Richard John, 121 East Sixtieth St., New York 22, N. Y., ALR.

Bergida, Jerome J., Comdr. (MC), USNR, U. S. Naval Hospital, Brooklyn, N. Y., ALR.

Berkley, William Leneave, U. S. Naval Hospital, St. Albans, N. Y., Op.

Berman, Harry, 1025 East 4th, South, Apt. No. 7, Salt Lake City, Utah, ALR.

Bizzell, Marcus Edward, 139 W. Walnut Street, Goldsboro, N. C., ALR.
Bloom, Samuel M., Major (MC), Valley Forge General Hospital, Phoenixville, Pa., ALR.
Bolton, Wilbur Minnis, 1020 S. W. Taylor St., Portland 1, Ore., ALR.
Brav, Solomon S., 2027 Spruce St., Philadelphia 41, Pa., Op.
Brody, Yale, 919 Bank of America Bldg., Stockton, Calif., Op.
Brown, Harold Ethan, 581 Bulen Ave., Columbus 9, Ohio, Op.
Brumm, Lewis Patrick, 726 Carew Tower, Cincinnati, Ohio, Op.
Burns, Coleman Craig, University Hospital, Iowa City, Iowa, ALR.

Calhoun, Ferdinand Phinizy, Jr., 478 Peachtree St., Atlanta, Ga., Op.
Cameron, Walter Courtney, 1103 Medical Arts Bldg., Tacoma 2, Wash., Op.
Cappeta, Domenico, 125 East 84th, New York, N. Y., Op.
Cavanor, Frank Tracy, 1818 Medical Arts Bldg., Minneapolis 2, Minn., ALR.
Chait, Robert A., 1799 E. 14th St., Brooklyn, N. Y., ALR.
Chamberlin, Clyde G., 300 Rentschler Bldg., Hamilton, Ohio, ALR.
Chessen, James, Capt. (MC), 763 Race St., Denver 8, Colo., ALR.
Chinn, Chester W., 209 W. 125 St., New York, N. Y., OALR.
Christenberry, Henry Edward, Jr., 501 W. Church St., Knoxville, Tenn., ALR.
Cirillo, Anchise Anthony, 89-21 153rd St., Jamaica, N. Y., ALR.
Clark, William H., 120 N. Lafayette Blvd., South Bend, Ind., ALR.
Cobey, James Francis, 1210 Chapel St., New Haven 11, Conn., OALR.
Cody, Claude Carr, 1304 Walker Ave., Houston, Texas, ALR.
Covell, Kermit Wendell, 610 Main St., Racine, Wis., ALR.
Cowell, Edward Huntington, 427 Biltmore Way, Coral Gables 34, Fla., Op.
Crane, Donald Van Denburg, Medical Arts Bldg., Tulsa 3, Okla., Op.
Curts, James H., 330 South Washington St., Saginaw, Mich., Op.
Cutler, Morton, 122½ Main, South, Twin Falls, Idaho, Op.

Dan, Julius Martin, 1362 President St., Brooklyn 13, N. Y., Op.
Davies, Charles Edgar, 925 West Georgia St., Vancouver, B. C., Canada, Op.
Della Rocca, Anthony J., 1400 Benson St., New York 61, N. Y., ALR.
Diehl, William Harold, 701 Chestnut St., Lebanon, Pa., ALR.
Donoghue, William Francis, Jr., 69 Chestnut St., Springfield, Mass., ALR.
Drell, Maurice Joseph, 950 E. 59th St., Chicago 37, Ill., Op.
Duncan, Frank Benbow, 301 Polk St., Amarillo, Tex., Op.

Edwards, David Lloyd, 203 Stanolind Bldg., Tulsa 3, Okla., Op.
Edwards, Thomas Marvin, 322 Citizens Bldg., Tampa 2, Fla., ALR.
Emrich, Paul Stanley, 64 Mt. Vernon, Oshkosh, Wis., ALR.
Ersay, Emil Francis, 1030 Euclid Ave., Cleveland 14, Ohio, ALR.
Esterly, Daniel Beard, 104 North Madison, Pasadena 4, Calif., Op.

Fawcett, Keith R., 205 W. 2nd St., Duluth, Minn., Op.
Fein, Norman Nathaniel, 238 W. Wisconsin Ave., Milwaukee, Wis., ALR.
Fields, Jack, 104 South Michigan Ave., Chicago 1, Ill., Op.
Fisher, Harry Richard, 465 West End Ave., New York, N. Y., ALR.
Friedman, Joseph Jay., 57 Midwood St., Brooklyn 25, N. Y., ALR.
Fringer, Robert Chatterton, 216 News Tower, Rockford, Ill., Op.
Fritz, Milo H., Dartmouth Eye Institute, Hanover, N. H., OALR.
Futch, Charles Edward, 716 N. Walden Dr., Beverly Hills, Calif., ALR.

Gaines, Shelley Rice, American Bank Bldg., New Orleans 12, La., Op.
Gardiner, Charles Ernest, 701 Chestnut St., Lebanon, Pa., ALR.
Garlichs, Richard Walton, 216 North Manoa Rd., Havertown, Pa., ALR.
Garvey, Thomas Quincy, 115 E. 61st St., New York, N. Y., ALR.
Gettes, Bernard Charles, 2028 Pine St., Philadelphia, Pa., Op.
Gilligan, John Henry, 1831 Wilson Blvd., Arlington, Va., ALR.
Goldman, Jerome, 1 Johnson Ave., Newark 8, N. J., Op.
Gordon, George Raoul, 913 S. 19th St., Birmingham, Ala., ALR.
Gordon, John Simpson, 950 E. 59th St., Chicago 19, Ill., ALR.
Greene, Philip Burkland, 517 Old National Bank Bldg., Spokane, Wash., Op.
Greetham, James S., Capt. (MC), Wakeman General Hospital, Camp Atterbury, Ind., Op.

Gromer, Terry John, 110 Metropolitan Bldg., Denver, Colo., ALR.
Gurau, Henry H., 215 Bankers Trust Bldg., Des Moines, Iowa, Op.

Hanson, Frederick Charles, 162 Angell St., Providence 6, R. I., Op.
Harley, Robison D., 101 South Indiana Ave., Atlantic City, N. J., Op.
Harris, Herman Lee, Reynolds Arcade Bldg., Bristol, Va., ALR.
Hart, Verling Kersey, 106 W. 7th St., Charlotte 4, N. C., ALR.
Harvey, Elmer Frank, 1422 Euclid Ave., Cleveland 15, Ohio, Op.
Hays, Arthur Vernon, 918 Main St., Hattiesburg, Miss., ALR.
Henderson, James Alexander, Comdr. (MC), U. S. Naval Hospital, Philadelphia 45, Pa., ALR.
Henrich, Mary Ingeborg, 40 North St., Buffalo 2, N. Y., Op.
Henrickson, John William, 2001 Fourth Ave., San Diego, Calif., ALR.
Hester, Marion William, 317 Marble Arcade Bldg., Lakeland, Fla., Op.
Hetzel, Clarence Charles, Jr., 721 Eccles Bldg., Ogden, Utah, ALR.
Hickey, Cornelius S. 39 Bay State Road, Boston 15, Mass., ALR.
High, Howard C., University of Michigan, Ann Arbor, Mich., ALR.
Hilger, Jerome Andrew, 444 Lowry Medical Arts Bldg., St. Paul, Minn., ALR.
Hogan, Michael John, 450 Sutter St., San Francisco 8, Calif., Op.
Holmes, Dorothy Behner, 1816 R Street N. W., Washington 9, D. C., Op.
Holmes, William John, 45 Young Bldg., Honolulu, Hawaii, Op.
Huffman, William Clyde, University Hospitals, Iowa City, Iowa, ALR.

Inciardi, James A., 2415 Beverly Rd., Brooklyn 26, N. Y., Op.

Johnson, Thomas W., 529, 39 East Ohio, Indianapolis 4, Ind., ALR.
Jones, John Allen, 401 S. Court St., Montgomery, Ala., ALR.
Jordan, Harvey Ernest, Jr., 1912 Spruce St., Philadelphia 3, Pa., ALR.
Jordan, Raymond Ellsworth, 121 University Place, Pittsburgh 13, Pa., Op.

Kallen, Leo A., 667 Madison Ave., New York 21, N. Y., ALR.
Kaufman, Aaron, 483 Beacon St., Boston 7, Mass., ALR.
Keim, William Franklin, Jr., 15 Washington St., Newark 2, N. J., ALR.
Key, Samuel Newton, Jr., University Hospitals, Iowa City, Iowa, Op.
King, James Thomas, 803 Medical Arts Bldg., Atlanta 3, Ga., ALR.
Klaff, Daniel David, Major (MC), Gorgas Hospital, Ancon, Canal Zone, ALR.
Koff, Raphael Joseph, 1919 Wilshire Blvd., Los Angeles, Calif., Op.
Kornblut, Alfred, 1539 Fairfield Ave., Bridgeport 5, Conn., ALR.
Kulesher, Henry T., 3825 Pershing Drive, Arlington, Va., ALR.

Lamb, Andrew J., 10006 Carnegie Ave., Cleveland, Ohio, ALR.
Larose, Joseph Henry, 1317 Whitney Bldg., New Orleans 12, La., Op.
Lavine, Oscar, Suite 620, 1801 Eye St., N. W., Washington 6, D. C., Op.
Lees, Charles Ray, 806 Medical Arts Bldg., Fort Worth, Texas, Op.
Lennarson, Vincent A., 215 North Sheridan Road, Waukegan, Illinois, ALR.
Levitt, Edward J., 840-842 Maccabees Bldg., Detroit 2, Mich., ALR.
Lieberman, Harold, 175 June St., Worcester, Mass., ALR.
Linhart, William Oran, 521 Medical Arts Bldg., Pittsburgh, Pa., Op.
Lisman, Jack Victor, 654 Madison Ave., New York, N. Y., Op.
Livshin, Norman, Lt. Comdr. (MC), 611 University Bldg., Syracuse, N. Y., ALR.
Locke, William Walter, 507 Empire Bldg., Birmingham, Ala., ALR.
Long, Albert Emanuel, 169 Main St., Weston, W. Va., Op.

McCrory, James Lynn, 607 North Grand, St. Louis 3, Mo., ALR.
McFarland, Corley B., 122 N. Lafayette Blvd., South Bend, Ind., Op.
McGraw, James Lorenz, State Tower Bldg.,Syracuse, N. Y., Op.
McNally, John Joseph, 121 E. 60th St., New York, N. Y., ALR.
Marden, Philip Ayer, 1912 Spruce St., Philadelphia 3, Pa., Op.
Marmor, William A., 607 N. Grand Blvd., St. Louis, Mo., ALR.
Merrill, Rowland Hyde, 1010 First National Bank, Salt Lake City, Utah, Op.
Mings, Dwain Edward, 224 W. Washington, Madison, Wis., Op.
Missal, Sylvester Clemens, 2323 Prospect Ave., Cleveland, Ohio, ALR.
Mitchell, Douglas Gatlin, 703 Medical Arts Bldg., Fort Worth, Texas, Op.
Morris, Francis O'Neil, 820 S. Cainter Ave., Whittier, California, ALR.

Neivert, Harry, 555 Park Ave., New York 21, N. Y., ALR.
Nelson, John Russell, Wyoming National Bank Bldg., Casper, Wyo., ALR.
Nicholson, John Bixby, 401 Savings Bank Bldg., Marquette, Mich., ALR.
Norris, Charles Morgan, 3401 N. Broad St., Philadelphia 40, Pa., ALR.
Noyes, Leighton Helmuth, 67 Main St., Brattleboro, Vt., ALR.

O'Brien, James Miles, Dartmouth Eye Institute, Hanover, N. H., Op.
O'Donnell, Merrill Charles, 725 Jenkins Bldg., Pittsburgh 22, Pa., ALR.
Offenbach, Bertha, 270 Commonwealth Ave., Boston, Mass., Op.
O'Keefe, John Joseph, 255 S. 17th St., Philadelphia 3, Pa., ALR.
Olsen, Arthur Roy, 1421 State St., Santa Barbara, Calif., ALR.
Owens, William Councilman, Johns Hopkins Hospital, Baltimore 5, Md., Op.

Page, Donald Franklin, Boulder-Colorado Sanitarium, Boulder, Colo., ALR.
Peck, Howard Burgess, 577 Brae Burn Rd., Mansfield, Ohio, Op.
Peele, James Clarendon, La Grange, N. C., ALR.
Penta, Arthur Quito, 1301 Union St., Schenectady, N. Y., ALR.
Percy, Archibald Edward, 1404 Murray St., Alexandria, La., ALR.
Perfect, Fred Rolleston, 1258 Penn Ave., Wyomissing, Pa., ALR.
Perkins, Edward Williamson, 312 Medical Arts Bldg., Richmond, Va., Op.
Pfingst, Harry A., 332 W. Broadway, Louisville 2, Ky., Op.
Piercy, Robert Lee, 613 Home Savings and Loan Bldg., Youngstown, Ohio, ALR.
Pliss, Aaron, 40 North St., Buffalo, N. Y., Op.
Presberg, Max Harold, 35 Chestnut St., Rochester 4, N. Y., Op.
Preston, William O., 733 South 44th St., Louisville, Ky., ALR.
Prindle, Ronald Edon, Capt. (MC), 20 Courtland St., Norwich, N. Y., ALR.
Pulliam, Robert Lee, Jr., University Hospitals, Iowa City, Iowa, ALR.
Putney, Floyd Johnson, 255 S. 17th St., Philadelphia 3, Pa., ALR.

Rambo, Victor Clough, 110 Harvey St., Philadelphia 44, Pa., Op.
Rasgorshek, Robert Houston, 425 Aquila Court, Omaha, Nebr., Op.
Reed, Paul Henry, 727 W. 7th St., Los Angeles 14, Calif., Op.
Reel, Frederick Clifton, 432 Medical Arts Bldg., Charleston 1, W. Va., ALR.
Reese, Frederic Miller, Professional Bldg., 330 N. Charles, Baltimore 1, Md., Op.
Reid, Frederick Kessinger, Major (MC), Station Hosp., U. S. Military Academy, West Point, N. Y., Op.
Reid, Wesley Grattan, 974 Fisher Bldg., Detroit, Mich., Op.
Rice, Theodore A., 390 Main St., Worcester, Mass., Op.
Ringer, Merritt Gartley, 4876 N. Hermitage Ave., Chicago, Ill., ALR.
Rodenberg, Elmer Julius, 1597 Neil Ave., Columbus 1, Ohio, ALR.
Ross, Ervin Scott, 477 Riddle Rd., Cincinnati, Ohio, ALR.
Roth, Aaron, 133 E. 58th St., New York, N. Y., ALR.
Roth, Leslie William, 203 Commercial Bldg., Belleville, Ill., Op.
Rothstein, David Louis, 45 E. Mosholu Pkwy. North, New York 67, N. Y., ALR.

Sage, Thomas, 7815 E. Jefferson Ave., Detroit, Mich., ALR.
Sale, George Goble, 216 Dixon Bldg., Missoula, Mont., ALR.
Schmidtke, Reinhardt L., 424 Hamm Bldg., St. Paul 4, Minn., Op.
Schwartz, Herbert Norman, 99 Pratt St., Hartford, Conn., Op.
Seeley, Ralph Hunt, Jr., 79 Center St., Rutland, Vt., ALR.
Seeley, Robert Charles, 133 East 58th St., New York, N. Y., ALR.
Seitz, Howard M., 9 Main St., Wapakoneta, Ohio, ALR.
Seligman, Maurice, 8757 Encino Ave., Northridge, Calif., ALR.
Shoemaker, Robert E., 1248 Hamilton St., Allentown, Pa., Op.
Shulruff, Harry I., 3701 Main St., East Chicago, Ind., Op.
Simmons, John T., 1501 First Ave., Jasper, Alabama, ALR.
Sleight, James Duane, 401 Security Bank Bldg., Battle Creek, Mich., Op.
Smith, Guy William, 1014 Republic Bldg., Denver, Colo., ALR.
Smith, Homer Edwards, 1005 Medical Arts Bldg., Salt Lake City, Utah, Op.
Smith, Thomas Leonard, 800 Broadway, Lorain, Ohio, ALR.
Snell, Albert Conrad, Jr., 53 South Fitzhugh St., Rochester 4, N. Y., Op.
Sooy, Francis A., Suite 808, 490 Post St., San Francisco, Calif., ALR.

Spiller, Arthur Eliot, U. S. Merchant Marine Acad., King's Pt., L. I., New York, Op.
Sputh, Carl Brosius, 224 N. Meridian, Indianapolis, Ind., ALR.
Stahl, Richard Holmes, 901 Kenmore Blvd., Akron, Ohio, ALR.
Steele, Clarence Hart, Ochsner Clinic, New Orleans, La., ALR.
Steele, Wendell M., Major (MC), Lawson General Hospital, Atlanta, Ga., Op.
Steine, Ben Zion, Medical Arts Bldg., Montreal, P.Q., Canada, ALR.
Sternberg, Paul, 58 E. Washington, Chicago 2, Ill., Op.
Stump, Robert Byron, 408 Hynds Bldg., Cheyenne, Wyo., Op.
Swan, Otis Dwight, Forum Bldg., 9th and K, Sacramento 14, Calif., ALR.

Tanner, Owen Ralph, 627 University Ave., Palo Alto, Calif., Op.
Toland, Virgil A., 509 W. McDowell Rd., Phoenix, Ariz., Op.
Treynor, Jack Vernon, 532 First Ave., Council Bluffs, Iowa, ALR.
Truitt, John William, 161 W. Wisconsin, Milwaukee, Wis., ALR.

Urmston, Paul Robert, 303 Davidson Bldg., Bay City, Mich., ALR.

Venable, Howard Phillip, 11 N. Jefferson Ave., St. Louis, Mo., Op.
Voltz, Vernon Carl, 303 N. Main St., Rockford, Ill., Op.
Von Leden, Hans Victor, U. S. Naval Hospital, Great Lakes, Ill., ALR.
Von Sallmann, Ludwig J. K., 635 W. 165th St., New York 32, N. Y., Op.

Walsh, Francis Mark, 330 Lowry Medical Arts Bldg., St. Paul 2, Minn., Op.
Weeks, Carrol Lamont, 1930 Wilshire Blvd., Los Angeles 5, Calif., Op.
Weinstein, Lee, 1104 N. 2nd St., Harrisburg, Pa., ALR.
Weiss, Leon M., 30 East 60th St., New York 22, N. Y., Op.
Weiss, Louis, 7085 Jenkins Arcade, Pittsburg, Pa., ALR.
Welch, Robert Francis, 232 Main St., Brockton, Mass., ALR.
Weseman, Chester M., 2140 Shattuck Ave., Berkeley, Calif., ALR.
Whitmer, Kenneth Sweet, 711 duPont Bldg., Miami 32, Fla., Op.
Wickstrom, Otto William, U.S.N. Hosp. Quarters M., Great Lakes, Ill., ALR.
Wilcox, John Guinan, Geisinger Memorial Hospital, Danville, Pa., ALR.
Wilson, James Edward, 899 Madison Ave., Memphis 3, Tenn., Op.
Wilson, John McCullough, 207 Watauga Ave., Johnson City, Tenn., Op.
Wilson, Warren Andrew, 1930 Wilshire Blvd., Los Angeles 5, Calif., Op.
Witchell, Ira S., 2021 Grand Concourse, New York 53, N. Y., ALR.
Witter, Gordon L., 2 West Fern Ave., Redlands, Calif., OALR.
Wong, Robert Tuck, 1147 Union St., Honolulu, T. H., Op.
Workman, Joseph B., Jr., 1515 Bull St., Columbia, S. C., Op.

Young, Clifton Aurelius, U. S. Naval Hospital, Great Lakes, Ill., ALR.

Zonderman, Bernard, 10 Centennial Ave., Revere, Mass., ALR.

CANDIDATES NOT CERTIFICATED

(Eligible for Membership After Board Certification)

Carrozza, Natale Salvatore, 108 Vanderbilt St., Brooklyn 18, N. Y.
Collins, John Andrew, 2923, 45th St. N. W., Washington 16, D. C.
Harbin, Thomas Shelor, U. S. Naval Hospital, Annapolis, Md.
Hargett, Edgar R., 4 West Main St., Springfield, Ohio.
Levey, Mark Robert, 830 Tegler Bldg., Edmonton, Canada.
Rowland, Alan Lawrence, 1031 Bank of America Bldg., San Diego, Calif.
Seelye, Norman Lee, 36 North Ayer St., Harvard, Ill.
Sellitto, Anthony Michael, 115 Connett Place, South Orange, N. J.
Sullivan, Charles Joseph, 57 Paterson St., New Brunswick, N. J.
Thornhill, Gabriel Felder, 1304 Norwood Bldg., Austin, Texas.
Tyler, William H., University of Iowa Hospitals, Iowa City, Iowa.
Vermillion, Dale Dewitt, Goodland, Kan.
Zarbaugh, Guy Frederic, Comdr. (MC), USNR, 13-D-1, Camp Pendleton, Oceanside, Calif.

Necrology

IN MEMORIAM

William Byron Agan, Brooklyn, N. Y.

Albert H. Andrews, Chicago, Ill.

Michael Valentine Ball, Warren, Pa.

Aaron Barlow, Philadelphia, Pa.

Donald Adelbert Bartley, Indianapolis, Ind.

Henry N. Blum, New Orleans, La.

James Cornelius Braswell, Tulsa, Okla.

Robert Hiram Butler, Bellefontaine, Ohio

Waid Edwin Carson, Pittsburgh, Pa.

George Llewelyn Clarke, Detroit, Mich.

Grady Edward Clay, Atlanta, Ga.

William Clyde Comee, Green Bay, Wis.

John Francis Curtin, Minneapolis, Minn.

George James Dennis, Chicago, Ill.

Benjamin G. Dyer, Kalamazoo, Mich.

Welch England, Parkersburg, West Va.

Hal Lovelace Foster, Kansas City, Mo.

Albert Dalbey Frost, Columbus, Ohio

Isidore Friesner, New York, N. Y.

Charles Munsell Fullenwider, Muskogee, Okla.

Charles Manly Griffith, New York, N. Y.

L. L. Herriman, Alamosa, Colo.

Erastus Eugene Holt, Jr., Portland, Me.

Spencer Stoddard Howe, Bellingham, Wash.

Lawrence C. Ingram, Orlando, Fla.

Rufus Jackson, Baton Rouge, La.

Douglas P. A. Jacoby, Newport, R. I.

William Gilliam Kennon, Nashville, Tenn.

Morton J. Keys, Victoria, B. C., Canada

Oliver F. Kistler, Wilkes-Barre, Pa.

John Ferdinand Klinedinst, York, Pa.

George W. MacKenzie, Philadelphia, Pa.

George Andrew Moore, Palmer, Mass.

Robert Booth Moore, Little Rock, Ark.

Frederick J. O'Connor, Syracuse, N. Y.

Max H. Poser, Rochester, N. Y.

Frank Henry Rosebrough, San Antonio, Texas

Ferdinand Shoemaker, Kansas City, Mo.

Owen Malcolm Shreve, Erie, Pa.

Marshall B. Stewart, Dormansville, N. Y.

Thomas Milton Stewart, Cincinnati, Ohio

Edward Stieren, Pittsburgh, Pa.

Horace F. Tangeman, Cincinnati, Ohio

Samuel William Spencer Toms, Nyack, N. Y.

Thomas Francis Welsh, Salt Lake City, Utah

James Watson White, New York, N. Y.

Thomas J. Williams, Evanston, Ill.

WILLIAM BYRON AGAN

Born on March 21, 1887, in Troy, New York, William Byron Agan died in Brooklyn, New York, on February 5, 1946, at the age of 59. He earned his medical degree from Columbia University College of Physicians and Surgeons, New York, in 1912. After an internship at Mary Immaculate Hospital, Jamaica, New York, from 1913-1914, he began his practice in Brooklyn in 1915.

He was certificated as an eye specialist by the American Board of Ophthalmology in 1929.

Dr. Agan's hospital appointments included Bushwick Hospital, St. John's Hospital, Brooklyn Eye and Ear Hospital and the House of St. Giles the Cripple, Brooklyn.

Dr. Agan was a Fellow of the American Academy of Ophthalmology and Otolaryngology, the American College of Surgeons, and a past president of the Brooklyn Ophthalmological Society.

Surviving him are his widow, Mrs. Lucia Partridge Agan, and two daughters, Mrs. Terrence (Lucia) McGillicuddy, and Mrs. Richard (Beverly) Mason.

ALBERT H. ANDREWS

Dr. Albert H. Andrews, eye, ear, nose and throat specialist of Chicago, Illinois, died October 1, 1945, at the age of 83.

He was born in Oskaloosa, Iowa, December 21, 1861, and obtained his preliminary education at Penn College, Oskaloosa. He received his M. D. degree from the University of Iowa in 1889 and began his career as a physician in Marion, Iowa. In 1892 he did postgraduate work in New York.

Dr. Andrews was head of the Department of Otology, Chicago Postgraduate Medical School for eight years, oculist with the German-American Hospital from 1898 to 1905, on the attending staff of Wesley Memorial Hospital, 1908, ear, nose and throat physician, Chicago Polyclinic from 1912 to 1916, at one time head of the Department of Ear, Nose and Throat, Chicago College of Medicine and Surgery, and an instructor in otolaryngology at Northwestern University Medical School, 1933-44.

Dr. Andrews was a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, having joined the Academy the first time the meeting convened in Chicago in 1898; a fellow of the American Medical Association, the Illinois State Medical Society, the Chicago Medical Society, and Past President of the Chicago Laryngological and Otological Society.

He was a member of the Methodist Episcopal Church and president of the Chicago M. E. Old Peoples' Home, also president of the Chicago Sunday School Association.

His hobbies were archery and pottery.

He is survived by his widow, two sons, Jay Wayne and Dr. Albert H. Andrews, Jr., and one daughter, Mrs. (Loire) White, Ft. Wayne, Indiana.

MICHAEL VALENTINE BALL

Michael Valentine Ball, ophthalmologist, and a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, died May 26, 1945, at the age of 77.

He was born in Warren, Pennsylvania, on February 14, 1868, and received his M.D. degree from Jefferson Medical College in 1889. He took postgraduate work in bacteriology for one year in Berlin, Germany, under Dr. Robert Koch. In 1894 he began the practice of medicine in Philadelphia.

Dr. Ball served as instructor in bacteriology at the Polyclinic of Philadelphia, and at Niagara Medical School, Buffalo, and was resident physician, Eastern State Penitentiary, Philadelphia, for 3 years. He obtained special training in eye and ear clinics of Philadelphia; at one time served as professor of clinical pathology at Womens' Medical College, New York.

In 1897 Dr. Ball moved to Warren, Pennsylvania and entered private practice in ophthalmology. He was on the advisory board of Warren General Hospital when it was established and was a director for many years. He was ophthalmologist to Warren General Hospital for several years and was also on the consulting staff of Warren State Hospital.

In 1898 Dr. Ball became interested in public health and established a Board of Health in Warren, acting as president from 1900 to 1914. He organized a system of school inspections and served as school physician. He also established a pure water supply in Warren.

Dr. Ball was a member of the American Medical Association, the Pennsylvania State Medical Society, president of the Warren County Medical Society for two years, a reporter for Warren County Society for a number of years, and a member of the State Society Committee on Archives. He was also a member of the Warren Academy of Science and the Philadelphia Academy of Sciences.

In addition to these interests, Dr. Ball was a member of the Warren Elks' Club, the Shakespeare Club, Social Science Club, Past Master of Joseph Warren Lodge Masonic Temple, and one of the three members of the Philadelphia Ethical Society of 50 years' membership.

Dr. Ball is survived by his widow, Mrs. Grace Ball, two sons, and two daughters.

AARON BARLOW

Dr. Barlow, who was born in Kurland, Latvia, in 1883, died on February 8, 1946 in Philadelphia at the age of 62.

He obtained his medical degree from Medico-Chirurgical College of Philadelphia in 1909. He served as Chief of the Ophthalmology Department of Mount Sinai Hospital in Philadelphia, as well as on the Staff of Wills Eye Hospital, Philadelphia, since 1912.

Dr. Barlow became a Fellow of the American Academy of Ophthalmology and Otolaryngology in 1936.

He is survived by four nephews and two nieces.

DONALD ADELBERT BARTLEY

Dr. Donald Adelbert Bartley was born September 4, 1886, at Oaktown, Knox County, Indiana, and received his early education in and around Oaktown. He received an A.B. degree from Indiana University in 1912 and his M.D. degree from Indiana University in 1914. He began practice July 1, 1915, at Spencer, Indiana, having done postgraduate work for six months in Chicago and six months in London, and having taken short courses in Paris and Philadelphia.

He served as a Captain in the British Army for two and one-half years during World War I. He was Assistant Professor in Indiana Medical School, on the staff of Methodist Hospital, St. Vincent's Hospital and City Hospitals of Indianapolis.

In 1932 he was certificated as a specialist by the American Board of Ophthalmology. He was associate professor of ophthalmology at his alma mater; a Fellow of the American Academy of Ophthalmology and Otolaryngology; past president of the Indianapolis Ophthalmological and Otolaryngological Society. He was a member of the First Friends' Church of Indianapolis, Sigma Alpha Epsilon Fraternity at Indiana, a member of the Masonic Mystic Tie Lodge, and a member of Nu Sigma Nu Medical Fraternity.

Dr. Bartley died of cardiac failure June 16, 1945, aged 58. His last day in his office was Nov. 18, 1944. His wife, Myrtle Hadley Bartley, a daughter, Joan Bartley, and his son, Dr. Max Donald Bartley, survive him.

HENRY N. BLUM

One of the South's outstanding eye specialists, Dr. Henry Blum, died in New Orleans, Louisiana, on April 13, 1946, following a cerebral hemorrhage. A native of Baton Rouge, Dr. Blum was born December 22, 1876. He received his bachelor of science degree at Louisiana State University in 1895 and his M. D. from Tulane University in 1900. He interned at Shreveport's Charity Hospital and Touro Infirmary in New Orleans.

After his internship, Dr. Blum wrote numerous articles for medical journals and built a large practice.

He was senior surgeon at Touro Infirmary from 1903 to 1906, senior associate in ophthalmology from 1910 until 1926. From 1926 to 1938 he was chief of the hospital's department of ophthalmology. At the time of his death, he was consultant in ophthalmology.

From 1930 until 1934 Dr. Blum was senior ophthalmologist at Charity Hospital and was consulting ophthalmologist at Flint-Goodridge Hospital since 1934.

He taught ophthalmology at Tulane's medical school from 1923 to 1925 and was named associate professor of the postgraduate school in that year.

In 1931 Dr. Blum became professor of ophthalmology and chief of the department at LSU's medical school which position he held until 1934.

Dr. Blum was a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, a fellow of the American College of Surgeons, the New Orleans and state societies of the American Medical Association.

Survivors are his widow and one daughter.

ROBERT HIRAM BUTLER

Dr. Robert Butler, ophthalmic surgeon for the New York Central Railroad, for Bellefontaine, Ohio, died November 21, 1945, at Bellefontaine. He was 64 years of age.

Born in Bellefontaine, Ohio, in March, 1881, Dr. Butler was graduated from Miami Medical College, Cincinnati, in 1906. He took up postgraduate work in Vienna, and began practicing medicine in Bellefontaine in 1908.

He was a Senior Fellow of the American Academy of Ophthalmology and Otolaryngology, a fellow of the American College of Surgeons, a diplomate of the American Board of Otolaryngology, a member of the Ohio State Medical Association, and the American Medical Association. He belonged to the First Presbyterian Church.

Outside of his medical interests, Dr. Butler was President of the Board of Trustees for the Bellefontaine Library; treasurer of the Amateur Trapshooting Association of Vandalia, Ohio, and a member of the Masonic Order.

His widow and four brothers survive him .

WAID EDWIN CARSON

Dr. Carson was born in Racine, Ohio, on August 8, 1876 and he died in Presbyterian Hospital, Pittsburgh, Pennsylvania, on April 9, 1946.

He received his preliminary education at Racine, Ohio and Ripley, West Virginia, and his M. D. degree in 1907 from the Johns Hopkins University School of Medicine. He also held the degrees of Bachelor of Arts and Master of Arts from Marietta College and Ohio Wesleyan University. His postgraduate work was done at the University of Chicago, in Paris, London, Vienna, Berlin, Spain and Cairo, Egypt.

In 1909 he began the practice of medicine in Pittsburgh, Pennsylvania. Dr. Carson was a professor of ophthalmology at the University of Pittsburgh, chief of staff at Western Pennsylvania Hospital from 1919 to 1939, consultant on the staff since 1939. He was vice president of the staff at Eye and Ear Hospital for thirty years. He was on the staff of Presbyterian Hospital and a consultant at Elizabeth Steele Magee Hospital, Pittsburgh.

Dr. Carson was a Senior Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the Allegheny County Medical Association, the Pennsylvania State Medical Association, the Pittsburgh Academy of Medicine of which he was President in 1941-42, a member of the Pittsburgh Ophthalmological Society, the Ophthalmological Society of the United Kingdom and a fellow of the American College of Surgeons.

Dr. Carson was a Mason, a member of Phi Delta Theta and of the Archaelogical Institute of America, a member of the University Club, the Scottish Rite Bodies, Valley of Pittsburgh and Syria Temple. He attended the Presbyterian church.

He is survived by a sister, Mrs. Bessie Staats of Ripley, West Virginia, two nephews, Dr. E. Dwight Staats and Wallace Waid Staats, Ripley, West Virginia, and one niece, Mrs. Theo. Maddox, Morgantown, West Virginia.

During World War I Dr. Carson was in charge of the Eye Department at the United States Naval Reserve Hospital, Great Lakes, Illinois.

GEORGE L. CLARKE

Dr. George Llewelyn Clarke, a native of London, Ontario, Canada, and a prominent eye, ear, nose and throat specialist in Detroit, Michigan, for the past twenty-five years, died December 15, 1945, in London, Ontario, where he was convalescing at the home of a sister following an operation in July. He was 68 years of age.

Dr. Clarke was graduated from the University of Western Ontario Medical School as gold medalist of the class of 1899 and joined the faculty shortly thereafter. Four years later he was granted leave of absence to take postgraduate studies in England and Germany. He was a professor of anatomy until 1912, and after setting up a private practice in London, Ontario, continued to lecture on ophthalmology, otology, rhinology and otolaryngology until 1920. In that year he went to Detroit, where he maintained an active practice until the summer of 1945.

Dr. Clarke was for several years on the staff of Harper and Grace hospitals.

A sister, Mrs. William A. Martin, London, Ontario, survives him, as does a brother, Frederick R. Clarke of Toronto.

GRADY EDWARD CLAY

Dr. Grady Edward Clay, 57, for many years one of the South's most famous eye men, died on July 11, 1946, at Walnut Grove, Georgia, after a long illness.

Born on November 12, 1889, at Walnut Grove, Dr. Clay was the only child of Mr. and Mrs. Augustus C. Clay. His grandfather was Augustus Caesar Clay, who migrated from Virginia to Georgia early in the nineteenth century.

Grady Clay attended public schools at Walnut Grove, and Monroe, Georgia, and then was graduated in 1910 from the old Emory College, at Oxford, Georgia. Here, he was active in athletics, being captain of the baseball, football and track teams. He was also a member of the Phi Delta Theta Fraternity, an interest which he retained throughout his life.

After finishing at Emory, he decided to study medicine. He attended the Medical School of the University of Michigan and received his degree there in 1914. He then took an internship in the Eye Department of the same school and completed this work in 1917.

Returning to Georgia, Dr. Clay became an instructor in the Eye Department of the Emory University Medical School and remained in that position until 1918. Then he entered the Medical Corps of the Army and served 18 months overseas with A.E.F. Base Hospital 115 in France. He returned in 1919 with the rank of captain.

Dr. Clay then decided to practice in Atlanta, where he opened an office and was the first medical man in the South to specialize in the treatment of the eyes.

As a result of his experience in this field, Dr. Clay contributed many noteworthy medical papers to scientific journals. Among them are: Suture Filtration of Glaucoma, 1929; Angoid Streaks of the Retina and Pseudoxanthoma Elasticum, 1932; Laurence-Moon-Biedel Syndrome, 1933; Restoration of the Orbit and Repair of Conjunctival Defects, 1936; Lesions of the Fundus Oculi of Special Diagnostic Interest, 1937; An Unclassified Type of Optic Neuritis, 1937; Unusual Fundus Lesions (a course given at the American Academy of Ophthalmology and Otolaryngology meeting in 1937); Interpretation of Hypersensitive Diseases, 1942; Ophthalmoscopic Classification of Hypertensive Diseases, 1943.

Dr. Clay was active in the affairs of Emory University. From 1936 to 1938, he was President of the Emory University Alumni Association and was a member of the Board of Trustees. He was also chairman of the Alumni Committee which sponsored construction of Emory's Phi Delta Theta Delta Fraternity House. And for "outstanding service" to the University, he was elected to Omicron Delta Kappa, national honorary society.

Following his return from World War I Dr. Clay again joined the Medical School as an instructor and, in 1931, became associate professor of chemical ophthalmology.

In 1939, he became associate professor and chairman of the School's Eye Department. Five years later, he became full professor.

He was a member of the American Medical Association, the Southeastern Surgical Congress, the American Academy of Ophthalmoloy and Otolaryngology, the American Ophthalmological Society and was honorary member of a number of Southern County and State Medical Societies.

In addition, Dr. Clay served as president and as a member of the board of trustees of the Fulton Medical Society; Chairman of the Ophthalmological Section of the Southern Medical Association in 1936; associate editor of the American Journal of Ophthalmology; as a member of the Council of the American Academy of Ophthalmology and Otolaryngology, and as Vice President of the Southeastern Surgical Congress in 1939.

His interests outside of medicine included farming and fine Hereford cattle.

Surviving him are a son, Grady, Jr., of Louisville, Kentucky, and a daughter, Mrs. Lawson Calhoun of Atlanta.

WILLIAM CLYDE COMEE

Dr. Comee, attending ophthalmologist and otolaryngologist at Bellin Memorial Hospital, Green Bay, Wisconsin, was born in Seymour, Wisconsin, February 9, 1886. He received his M.D. degree from the University of Illinois in 1908. He began practice in Cecil, Wisconsin, in 1917.

A fellow of the American Medical Association and the American College of Surgeons, he was certificated by the American Board of Otolaryngology in 1926. He was also a Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the Wisconsin State

Medical Society and the Brown-Kewaunee-Door County Medical Society.

Dr. Comee was a 32nd Degree Mason, a Knight Templar, and a member of the Shrine. He attended the First Methodist Church.

Dr. Comee died December 8, 1945, and is survived by one son, William Clyde Comee, Jr., and two grandchildren.

JOHN FRANCIS CURTIN

After an illness of a year and a half, Dr. Curtin, president of Abbott Hospital medical staff, Minneapolis, died on December 25, 1945 at the age of 57. Born in Lawrence, Massachusetts on October 17, 1888, Dr. Curtin attended Lawrence, Massachusetts High School and obtained his medical degree from Harvard Medical School, Boston, in 1915. He also attended College of the Holy Cross at Worcester, Massachusetts, and Manhattan Eye, Ear, Nose and Throat Hospital, New York. He took postgraduate work at Denver Ophthalmology and Otolaryngology clinics.

Dr. Curtin came to Minneapolis in April, 1920, and established practice as an eye, ear, nose and throat specialist. In addition to serving at Abbott Hospital, Dr. Curtin was on the medical staffs of Asbury, Northwestern and St. Mary's hospitals in Minneapolis. He taught at Abbott and General Hospitals.

He was a member of the Hennepin County Medical Society, the Minneapolis Academy of Medicine, the Minnesota Academy of Ophthalmology and Otolaryngology, a Fellow of the American College of Surgeons, and of the American Academy of Ophthalmology and Otolaryngology, a member of Phi Beta Pi medical fraternity and a member of the Lufbery post of the American Legion.

Surviving Dr. Curtin are his widow, one daughter, Patricia Mae, and two sons, John Sandt Curtin and Donald Paul Curtin.

GEORGE JAMES DENNIS

The son of Charles P. and Sarah Lane Dennis, George James Dennis was born October 4, 1865, in Cincinnati, Ohio. He attended the Miami Medical College in Cincinnati from which he was graduated in 1887, and in 1898 he was graduated from Northwestern University Medical School. Two years later he began practicing in Chicago. He was certificated by the American Board of Otolaryngology.

At one time he was associate in laryngology at Northwestern University Medical School. He served on the staffs of the Wesley Memorial and Grant hospitals and was president of the board of the latter hospital for many years.

In addition to holding memberships in several Chicago medical societies, Dr. Dennis belonged to the Illinois State Medical Society of which he was an emeritus member, the American Medical Association and the American Academy of Ophthalmology and Otolaryngology.

Dr. Dennis died May 21, 1945, and is survived by his wife, Anna Bentley Dennis.

WELCH ENGLAND

Dr. Welch England, 44, prominent Parkersburg, West Virginia, eye, ear, nose and throat specialist and one of the three highest ranking military officers from West Virginia in the U. S. Army Medical Corps during World War II, died suddenly from a heart attack on April 29, 1946, at Parkersburg.

Born at Peterstown, West Virginia, February 19, 1902, Dr. England received degrees from West Virginia University in 1923 and from the University of Maryland Medical school in 1929. He opened his practice in Bluefield and later went to Clarksburg, West Virginia. After specializing in eye, ear, nose and throat studies at the University of Maryland, he went to Parkersburg in 1932 to establish a practice.

Shortly before World War II he erected a medical building in Parkersburg where he was returning to practice upon his return from the war.

Dr. England, a lieutenant colonel in the army medical corps at the time of his return to inactive service, had been assigned to an army hospital at Staunton, Virginia, during most of the war. He was commissioned a major shortly after Pearl Harbor.

Dr. England was a Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the American Medical Association, the Southeastern Surgical Congress and the Association of Military Surgeons of the United States; he served as a member, president and secretary of the Academy of Medicine of

Parkersburg; Fellow of the American College of Surgeons; formerly councilor of the Fourth District of the West Virginia Medical Association. He was on the staff of the Camden-Clark Memorial Hospital.

Surviving are his widow, Mrs. Catherine McClaugherty England, a son, Welch, Jr., a student in West Virginia University at Morgantown, and a daughter, Beth, at home.

HAL FOSTER

Dr. Hal Foster, founder of what is now the American Academy of Ophthalmology and Otolaryngology, died on May 21, 1946. On December 4, 1945, while crossing a street, he was struck by an automobile and sustained a fractured femur. From that day he was in constant pain and gradually lost strength.

He was born in Foster, Alabama, in 1858 and received his early education in the schools of that state. On September 17, 1882, Dr. Foster landed in Kansas City where he practiced medicine for 61 years. He retired in 1943. There were eight ophthalmologists in Kansas City when he arrived. For a time, he was the only physician limiting himself exclusively to O.R.L. work. He was really the father of otolaryngology in Kansas City.

One marvels how he, being so reserved, ever succeeded in asserting himself enough to become the father of what is now the most dynamic educational organization of medical specialists in the world. Though he meticulously performed all duties assigned him and ever kept abreast of the times, the fact that he faded out of the picture early in the Academy's work is evidence that he sought no special recognition for what he had achieved. He was the sort of leader who pushes others to the front because he felt they could do the work better than he.

In the East, Dr. Foster worked under and with eminent medical men in clinics and fellowshipped with them in medical societies. In Kansas City, he became lonesome, felt isolated, longed for medical companionship. In those early days there was not an abundance of American medical literature. Then, too, Kansas City was days instead of hours away from New York City. An idea flashed into his mind —A WESTERN MEDICAL SOCIETY OF EYE, EAR, NOSE, AND THROAT.

Dr. Foster was never a promoter, never an organizer, never an executive. The part he played in making the Academy what it is today is insignificant compared to what others have done, but he acted when opportunity presented. Throughout the years, he has watched the Academy develop. He never missed a meeting when he was in this country. He often told of the joy that was his in observing the constantly expanding activities of the Academy.

ALBERT DALBEY FROST

Dr. Albert D. Frost, well-known ophthalmologist of Columbus, Ohio, plunged to his death when his car skidded over a 300 foot embankment near Monterey, Virginia, where he had been attending a medical meeting.

Dr. Frost was born in Pittsburgh in 1889, attended the Pittsburgh Public Schools, and was graduated from the University of Pittsburgh Medical School in 1919. At the time of his death he was a member of the staffs of Ohio State University College of Medicine, Children's Hospital, Mt. Carmel, Grant, and White Cross, and was consultant at St. Francis, Columbus Cancer Clinic, and the Columbus State Hospital. He was a member of the Columbus Academy of Medicine, Columbus Ophthalmological and Otolaryngological Society, Medical Review Club, Franklin County Medical Society, Ohio State Medical Association, American Medical Association, Cleveland Ophthalmological Club, International College of Surgeons, American Academy of Ophthalmology and Otolaryngology, American Ophthalmological Society and the Association for Research in Ophthalmology.

In addition to his profound interest in ophthalmology he found time to devote to gardening, stamp collecting, travel and photography.

He is survived by his wife, Martha White Craig Frost; three children, Dorothy Jane, Albert Ellis, and James Dalbey; a brother, Dr. Ellis M. Frost of Pittsburgh; and a sister, Mrs. Helen Frost Dice, also of Pittsburgh.

ISIDORE FRIESNER

Born July 25, 1874, in New York City, Dr. Friesner obtained his early education in the New York City schools and at the College of the City of New York. A Phi

Beta Kappa, he was graduated in 1894 with an A.B. degree. He studied for his profession at the Gross Medical College in Denver, graduating in 1901.

Dr. Friesner immediately began specializing in otology, studying further in New York at Bellevue, Manhattan Eye and Ear and Presbyterian hospitals. In 1920 he joined the medical staff on Mount Sinai Hospital, New York, became otologist to the hospital a year later, and from 1927 to 1938 was president of the medical board. Greatly interested in teaching, it was under his direction of the department of otology that the training of residents in this field was started at the hospital. One of the first to recognize the importance of microscopic studies in diseases of the ear, he was responsible for the establishment at the hospital of a histopathologic department and laboratory facilities in connection with otology in 1928. On April 27, 1944, a portrait of him was presented to the hospital in commemoration of his seventieth birthday and as a tribute to his twenty-four years of service at Mount Sinai and to his pioneering work in establishing the relation of otology to general medicine.

Dr. Friesner was also associated with the Bronx and Beth David hospitals in New York, Beth Moses and Methodist hospitals in Brooklyn, St. Joseph's Hospital in Far Rockaway and the Flushing (N. Y.) Hospital. He was certificated by the American Board of Otolaryngology in 1925.

A former president of the American Otological Society, he was its secretary at the time of his death. Dr. Friesner also held memberships in the American Laryngological, Rhinological and Otological Society, the American Academy of Ophthalmology and Otolaryngology, the American College of Surgeons, the American Medical Association, and local, county and state medical societies. In addition he was on the board of trustees of the New York League for the Hard of Hearing.

Dr. Friesner was co-author of two books "Labyrinth" and "Cerebellar Abscess."

Leaving his wife and two brothers, Dr. Friesner died September 8, 1945, of coronary thrombosis.

CHARLES MUNSELL FULLENWIDER

Dr. Fullenwider was born on February 10, 1878 in Mechanicsburg, Illinois. He studied at Kansas University and received his medical degree from Rush Medical College, Chicago, in 1903. Postgraduate work was taken at the University of Vienna, Austria.

In 1905 Dr. Fullenwider began his practice in Eldorado, Kansas. For many years he was an eye, ear, nose and throat specialist in Muskogee, Oklahoma, where he died on January 26, 1946, at the age of 68.

Dr. Fullenwider became a Fellow of the American Academy of Ophthalmology and Otolaryngology in 1918 and at the time of his death was a Senior Fellow. He was also a member of the American Medical Association, the Kansas City Society of Ophthalmology and Otolaryngology and the Muskogee County Medical Society. He was a member of the St. Paul Methodist church, Muskogee.

Aside from his medical interests, Dr. Fullenwider enjoyed hunting and fishing.

Surviving are his wife, Mrs. Nancy E. Fullenwider, two daughters, Nancy Lou Fullenwider and Mrs. Wallace C. (Ellen) Thomas, and one son, Charles G. Fullenwider.

CHARLES MANLY GRIFFITH

Serving as a Navy Commander in the Pacific theater from 1942 to 1945, Charles Manly Griffith was awarded the Purple Heart and the Navy Cross. He also served his country during World War I and was wounded in action in France.

Born in 1893 at Thomasville, North Carolina, Dr. Griffith obtained his doctor of medicine degree in 1917 from the University of Virginia. He began practicing medicine in Syracuse, New York, in 1922 and from the first began specializing in diseases of the ear, nose, and throat.

He held the post of surgeon at the Manhattan Eye, Ear and Throat Hospital and was associate professor of otolaryngology at the New York Postgraduate School and Hospital. He later was a consultant in otolaryngology at St. Agnes Hospital, White Plains, New York.

Dr. Griffith was a Fellow of the American Academy of Ophthalmology and Otolaryngology, the American College of Sur-

geons, and the New York Otolaryngological Society.

He died in New York City on October 9, 1945, at the age of 52 years. Survivors are one sister and two brothers.

ERASTUS EUGENE HOLT, JR.

Born in Portland, Maine, on September 5, 1885, Dr. Holt received his preliminary education in the Portland schools and Bowdoin College, and earned his medical degree from Bowdoin Medical School in 1910. After his interneship at Maine Eye and Ear Infirmary, Dr. Holt began his practice in Portland where he specialized in diseases of the eye.

Dr. Holt served as councilor of the First District of the Maine Medical Association, executive surgeon and superintendent of the Maine Eye and Ear Infirmary, consulting surgeon to the Maine General Hospital and Children's Hospital in Portland, the Webber Hospital, Biddeford, and the Henrietta D. Goodall Hospital, Sanford.

A Life Fellow of the American Academy of Ophthalmology and Otolaryngology, Dr. Holt was also a member of the Portland Medical Club, the New England Ophthalmological Society, the Maine Medical Association, the American Ophthalmological Society, the Association for Research in Ophthalmology and a Fellow of the American College of Surgeons.

Dr. Holt died in Portland on February 2, 1946, at the age of 60, of lymphatic leukemia.

He is survived by his wife and three daughters.

SPENCER STODDARD HOWE

Dr. Spencer Howe was born October 25, 1876, in Savanna, Illinois, where he received his preliminary education. In 1903 he was graduated from Rush Medical College and did postgraduate work in Vienna. He served as resident surgeon at the Chicago Eye and Ear Infirmary from 1911-1912.

In 1903 Dr. Howe began general practice at Lynden, Washington, and in 1913 took up eye, ear, nose and throat work in Bellingham, Washington, where he died on November 8, 1945.

Dr. Howe was a medical reserve officer with the rank of major during World War I.

His society affiliations included the Whatcom County Medical Society, Washington State Medical Association, American Medical Association, fellow of the American College of Surgeons, member of the Puget Sound Academy of Ophthalmology and Otolaryngology of which he was a past president, the Pacific Coast Oto-Ophthalmological Society and the American Academy of Ophthalmology and Otolaryngology.

Dr. Howe is survived by brothers and sisters in Los Angeles.

LAWRENCE C. INGRAM

Dr. Lawrence C. Ingram of Orlando, Florida, died at the Lake City Hospital, Lake City, Minnesota, Monday, July 2, 1945, after an illness of several weeks. Born at Perry, Illinois, October 5, 1872, Dr. Ingram received his medical training at Keokuk College of Physicians and Surgeons, Keokuk, Iowa, from which he was graduated in 1903.

From 1903 to 1911 Dr. Ingram was in general practice at Zumbro Falls, Minnesota, going from there to Red Wing where he specialized in eye, ear, nose and throat work. In the fall of 1914 Dr. Ingram and family moved to DeLand, Florida, and in 1920 they located in Orlando. In 1937 Dr. Ingram retired and his practice was taken over by his son, Dr. Hollis Ingram.

After his retirement, Dr. and Mrs. Ingram traveled extensively. Dr. Ingram's hobbies were kodachrome pictures and floriculture, and he was considered an authority on azaleas.

Dr. Ingram's society affiliations were as follows: Orange County Medical Society of which he was past president, the Florida Medical Association, the Southeastern Surgical Congress, the American Medical Association, Life Fellow of the American Academy of Ophthalmology and Otolaryngology, a fellow of the American College of Surgeons and diplomate of the American Board of Otolaryngology. He was chief emeritus of the Eye, Ear, Nose and Throat Service of the Orange General Hospital, Orlando.

He was a member of the Orlando Rotary Club and a deacon of the Park Lake Presbyterian Church.

Survivors are his wife, Caroline T. Ingram, and his son, Dr. Hollis C. Ingram.

RUFUS JACKSON

Dr. Jackson died February 21, 1946, of injuries received in a tragic accident on his farm near Baton Rouge when a tractor he was driving overturned on him, crushing his chest and inflicting internal injuries.

Born in Clinton, Kentucky, on March 1, 1883, Dr. Jackson, who received his M. D. from the University of Louisville School of Medicine in 1908, had been an eye, ear, nose and throat specialist in Baton Rouge for the past twenty-five years.

He served as a Captain in World War I and saw service in France during that time.

Dr. Jackson was a member of the American Medical Association, a Fellow of the American Academy of Ophthalmology and Otolaryngology, and belonged to the New Orleans Ophthalmological and Oto-Laryngological Society, the East Baton Rouge Medical Society, the Louisiana-Mississippi Ophthalmological and Oto-Laryngological Society, the Louisiana State Medical Society and the Southern Medical Society.

He was a member of the Methodist church. Active in music affairs, he was a member of the Community Concert Association in Baton Rouge.

Survivors include Mrs. Jackson, one son, Harris, one sister, Mrs. Hayes Holland, three brothers, Richard E. Jackson of Camden, Arkansas, J. Mace Jackson of Artesia, New Mexico, and Henry of Baton Rouge; two nephews, one grandniece and one grandnephew.

DOUGLAS P. A. JACOBY

Dr. Douglas P. A. Jacoby was born in South Whitehall, Pennsylvania, and received his early education in the schools of that town. He studied medicine at Ohio State University and took postgraduate courses in Philadelphia and New York, and also studied in Vienna and London.

He first practiced medicine in Little Compton, but moved to Newport, Rhode Island, where he was a leading physician since 1898 and where he resided until the time of his death which occurred on August 26, 1945, at the age of 72. He at first practiced general medicine in Newport until he became associated with Dr. N. Darrel Harvey of Providence at which time he began specializing in diseases of the eye, ear, nose and throat. Dr. Jacoby was for many years the only eye specialist in Newport. He was a member of the Newport Medical Association, the Rhode Island Medical Association, the American Medical Association and a Life Fellow of the American Academy of Ophthalmology and Otolaryngology. He was also chief of the eye, ear, nose and throat department in the Newport Hospital and president of the board of trustees since 1939.

Dr. Jacoby was retired from the Rhode Island State Guard as a brigadier general, after having served for several years as a colonel in the Newport Artillery Company.

Besides his wife, Lois Almy Jacoby, he is survived by two brothers, and several nieces and nephews.

WILLIAM GILLIAM KENNON

Dr. Kennon passed away in Nashville, Tennessee, on January 3, 1946, at the age of 62 years. He was born in Powhatan County, Virginia, on October 25, 1884. He received his degree of doctor of medicine from the University of Pennsylvania. In 1913 he began the practice of medicine in Nashville, Tennessee, limiting his practice to diseases of the eye, ear, nose and throat. He was associated with Dr. Eugene Orr of Nashville for twenty-five years. In 1915 he was made assistant professor of ophthalmology and otolaryngology at Vanderbilt University School of Medicine and in 1923 became associate professor of ophthalmology and in 1929 clinical professor of otolaryngology.

During World War I Dr. Kennon joined the Vanderbilt Medical Unit, being commissioned as first lieutenant in the Army Medical Corps and was called to active duty November 5, 1917. He arrived in France February 2, 1918, and served as battalion surgeon of the 18th Infantry, First Division, AEF, until June of that year. He was then attached to Camp Hospital No. 28 at Nevers, France, until March 11, 1919. In November of 1918 he was promoted to Captain.

Dr. Kennon was a member of the American Laryngological, Rhinological and Otological Society, Nashville Academy of Medicine, Davidson County Medical Society, Tennessee Medical Association, the American Medical Association, and a Fellow of the American Academy of Ophthalmology and Otolaryngology. Dr.

Kennon was affiliated with the Episcopal Church.

Outside of his medical practice, he was an ardent sportsman, especially enjoying hunting and fishing.

Besides his wife, Dr. Kennon is survived by a son, Dr. W. G. Kennon, Jr., three sisters, and a brother.

MORTON J. KEYS

Born August 13, 1870, in Ottawa Valley, Ontario, Canada, Morton James Keys attended the public schools of Ottawa Valley and received his M.D. degree from McGill University in 1904. He did postgraduate work in Vienna and interned at Royal Eye Hospital, London, and began the practice of medicine in 1905 at Sherwood, North Dakota.

Limiting his practice to diseases of the eye, ear, nose and throat, in 1915 he began practicing in Victoria, B. C., Canada, where he died on May 29, 1945, at the age of 75.

Dr. Keys was a Fellow of the American Academy of Ophthalmology and Otolaryngology. He was interested in philanthropic work and was a very enthusiastic golfer. He was affiliated with the Episcopal Church.

OLIVER F. KISTLER

Dr. Kistler was born in Snyder, Pennsylvania, September 9, 1859. Following one year at Maryland College of Medicine, he obtained his M.D. degree from Jefferson Medical College in 1887. He began his medical practice in Nesquehoning, Pennsylvania, in the same year and practiced in the specialties of eye, ear, nose and throat in Wilkes-Barre from 1895 to within four weeks of his death, which occurred at his home, in Wilkes-Barre, on November 27, 1945.

In 1911 he assisted in the opening of the Riverside Private Hospital in Wilkes-Barre and in 1917 became one of the chiefs of the eye, ear, nose and throat department of the Wilkes-Barre General Hospital.

Dr. Kistler was a Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the Luzerne County Medical Society, the Medical Society of the State of Pennsylvania, and the Pennsylvania Academy of Ophthalmology and Otolaryngology.

He attended the First Methodist Church of Wilkes-Barre and was associated with various Masonic bodies.

His wife having died some years ago, he is survived by two sisters and two nephews.

JOHN FERDINAND KLINEDINST

Born on December 27, 1866, in York, Pennsylvania, Dr. Klinedinst died there on December 6, 1945, at the age of 78. He was educated in the public schools of York and earned his M. D. from the University of Maryland in 1889 and began to practice in York in the same year.

Dr. Klinedinst organized the first eye clinic at York Hospital; lectured on diseases of the eye to the nursing school of York Hospital; he was consulting ophthalmologist to the York Hospital staff and director of eye diseases, Dispensary of York Hospital.

He was a past president of the York County Medical Society, a member of the Pennsylvania State Medical Society, a Life Fellow of the American Academy of Ophthalmology and Otolaryngology and a member of the American Medical Association.

He belonged to St. Paul's Lutheran church of York, Pennsylvania. Outside of his medical interests, he was active in church work and served as a member of the York City School Board.

Besides his wife, Christine G. Klinedinst, Dr. Klinedinst is survived by one son, Herman, and two daughters, Helen Klinedinst and Mrs. B. B. Hudnall of Jacksonville, Florida.

GEORGE W. MACKENZIE

At the age of 73 years, George W. Mackenzie died on August 5, 1945, at Philadelphia, Pennsylvania. Born September 12, 1871, in Philadelphia, Dr. Mackenzie received his preliminary education in Philadelphia schools, and his M.D. degree from Hahnemann Medical College, Philadelphia in 1893. He also held an A.M. degree.

Postgraduate work was undertaken at the Philadelphia Polyclinic and in Vienna, Austria. Dr. Mackenzie began practicing medicine in Philadelphia in 1893.

Hospital and teaching appointments included those of associate professor of otology at the University of Pennsylvania Graduate school from 1918 to 1922; consultant to West Jersey Homeopathic Hos-

pital, Camden, New Jersey; Crozer Hospital, Chester, Pennsylvania; consulting otologist at McKinley Hospital, Trenton, New Jersey, and Blair Memorial Hospital, Huntington, Pennsylvania.

He was certificated as a specialist by the American Board of Otolaryngology; was a member of the American Institute of Homeopathy, the American Laryngological, Rhinological and Otological Society, a Fellow of the American Academy of Ophthalmology and Otolaryngology, and of the American College of Surgeons, and was past president of the Philadelphia Laryngological Society.

He was also a member of Sigma Xi Scientific Fraternity and a fellow of the American Association for the Advancement of Science.

Author of over 300 medical contributions, appearing in American, British, German and Dutch literature, Dr. Mackenzie received in 1932 from the University of Vienna a gold honor medal in recognition of his work in diseases of the eye, ear, nose and throat—the second physician in America to receive this honor.

Dr. Alice V. Mackenzie, his wife, survives him.

GEORGE ANDREW MOORE

Dr. Moore was born on August 24, 1871 in Preston, Connecticut. Ten years later he moved with his parents to Greenville, a suburb of Norwich, Connecticut where he attended school. He continued his schooling at Norwich Academy and in 1890 went to Palmer, Massachusetts, to take up the jewelry trade. He was very successful in this business, eventually opening a store of his own. A lover of nature and sports, Dr. Moore suffered the loss of his right eye from a shotgun wound while hunting. During his convalescence, he became intensely interested in the study of the eye and began reading textbooks on this subject and later took several courses in ophthalmology. He first started practice as an optometrist in Palmer, Massachusetts, and traveled house-to-house in a horse and buggy testing eyes and selling spectacles. In the meantime in his leisure he continued his studies, finally going abroad where he studied for over a year in England and Scotland. In 1902 he received a degree from the New York Post Graduate Medical School and in 1910 from the College of Physicians and Surgeons, Boston.

He was a member of the A.M.A. and the Massachusetts Medical Society.

Dr. Moore was elected to membership in the American Academy of Ophthalmology and Otolaryngology in 1916 and in 1919 he became a Fellow of the American College of Surgeons.

Dr. Moore took a very keen interest in civic affairs and was well known for his generosity. For many years he was chief of staff of the Wing Memorial Hospital and recently gave to the Wing Memorial Hospital Association a large tract of land, which may later become the site of a new hospital.

Dr. Moore died October 6, 1945, at his home, at the age of 74.

He is survived by his wife, Mrs. Marion (Paine) Moore, a sister, Miss Isabelle Moore; one nephew, and four nieces.

ROBERT BOOTH MOORE

Dr. Robert Booth Moore was born July 22, 1888, at Searcy, Arkansas. He received his preliminary education at Vanderbilt University, Nashville, Tennessee, and his M.D. degree from the College of Physicians and Surgeons, Columbia University, in 1914. He began practicing medicine in 1917 at St. Vincent's Infirmary, in Little Rock, Arkansas, where he remained until 1924. During this period he served overseas in World War I, as First Lieutenant in the Medical Division. From 1924 to 1945 he was with Trinity Hospital, Little Rock, being one of the founders who owned and operated this 50-bed hospital and out-patient clinic.

Dr. Moore was a specialist certified by the American Board of Otolaryngology and a Fellow of the American Academy of Ophthalmology and Otolaryngology. He was a member of the Presbyterian church.

Surviving him are his widow, Mrs Lena Belle Barber Moore, and two sons, Robert Booth, Jr., and William Edgar.

MAX H. POSER

Max H. Poser, doctor of physiological optics, widely known for his research in the field of optics and considered one of the greatest microscopists and an outstanding contributor to medical progress, died at his home in Rochester, New York, on January 4, 1946.

Born in Jena, Germany, on November 8, 1870, and educated at the University of Jena, where he received his degree in 1899, Dr. Poser came to America in 1914, as Special Representative and Technical Adviser of Bausch & Lomb Optical Co., Rochester, New York. He became a naturalized citizen of the United States on September 28, 1916.

In 1937 Dr. Poser was made a life technical adviser of the American Academy of Ophthalmology and Otolaryngology. For the first time in its history the Academy departed from custom in conferring an honorary life membership in the Academy on Dr. Poser at its 42nd annual meeting in Chicago, in recognition of his services over a perod of 22 years on scientific microscopy, photomicrographic research, eyesight refraction and other subjects pertaining to physiological optics and histopathology.

Workers on such problems as malaria, sleeping sickness and control of infection in surgery received aid from Dr. Poser's wide knowledge of optical principles and instruments. He designed many eye examination instruments, including the slit lamp used in the diagnosis and treatment of eye ailments.

Dr. Poser was a member of many scientific societies, including the Royal Institute of Great Britain, the British Physical Society and Royal Photographic Society, and a fellow of the Royal Microscopical Society. He was a member of the Optical Society of Great Britain and America, the American Association for Advancement of Science, the Pan American Congress of Ophthalmology, the American and New York State Optometric Associations, the National Society for the Prevention of Blindness and the Franklin Institute.

He was an honorary member of Beta Sigma Kappa and associated with the Scientific Section of the Advisory Board of Research.

He is survived by three daughters, Mrs. George B. Gallasch, Mrs. Norman H. Ball and Miss Beatrix Poser, and a grandson, George Albert Gallasch, all of Rochester.

FRANK HENRY ROSEBROUGH

Dr. Frank Henry Rosebrough died September 16, 1945, at Corpus Christi, Texas, after a short illness. Born at St. Louis, Missouri, on June 17, 1878, he received his medical training at St. Louis University Medical School, and held an A.B. degree from Westminster College, Fulton, Missouri. He did postgraduate work in New York City, at the University of Vienna, and in Paris, France. He began the practice of medicine at St. Louis in 1904, limiting his practice to diseases of the eye.

His hospital appointments included St. Louis City Hospital, M.K.&T.R.R. Co. Hospital, St. Louis Masonic Home, Methodist Orphans' Home, St. Louis; Presbyterian Clinic, San Antonio, Texas. He was a member of the staff of Nix Hospital and Santa Rosa Hospital of San Antonio.

His society affiliations were the American Medical Association, Texas State Medical Association, Southern Medical Association, and Bexar County Medical Association, the American Academy of Ophthalmology and Otolaryngology, the Texas Ophthalmological and Oto-Laryngological Association.

Dr. Rosebrough's interests, other than medical, were research, carpentry and the study of foreign languages.

He was a Mason and a member of the San Antonio Country Club. For about thirty years he was an elder in the Presbyterian Church.

Survivors are his wife, Rebecca Lyle Rosebrough and a brother, James W. Rosebrough.

FERDINAND SHOEMAKER

Born on June 2, 1868 in Georgetown, Washington, D. C., Dr. Shoemaker died on December 19, 1945, in Kansas City, Missouri, at the age of 77.

A graduate of Georgetown University School of Medicine, Washington, D. C. in 1891, he did postgraduate work in Chicago and St. Louis, and began to practice medicine in Lawton, Oklahoma with the Indian Service, in 1891. Dr. Shoemaker was with the Veterans Administration Facilities at Excelsior Springs and Kansas City, Missouri from 1921 to 1938, when he retired at the age of 70. During his lifetime he devoted twenty-five years to the Indian Service.

A Senior Fellow of the American Academy of Ophthalmology and Otolaryngology, Dr. Shoemaker was also a Fellow of the American College of Surgeons, the American Medical Association, a member of the Medical Society of the State of Pennsylvania, and the Kansas City, Society of O. O. R. L.

He was an extensive collector of stamps and a real artist in water colors. Dr. Shoemaker was a Knight Templar and Shriner.

Survivors are his widow, Mrs. Juanita Shoemaker, and one daughter, Mrs. Doris Rosenkrans, Kansas City, Missouri.

OWEN MALCOLM SHREVE

Born in Chapmanville, Crawford County, Pennsylvania on October 10, 1860, Dr. Shreve received his preliminary education at Bucknell University and obtained his M.D. degree from the University of Buffalo School of Medicine in 1892. For three years he did postgraduate work at Moorefields Eye Hospital in London, where he began to practice medicine in 1895. In 1901 he went to Erie, Pennsylvania, where he remained, becoming Head of the Eye Department at St. Vincent's Hospital. He was with this institution for over thirty years.

A Life Fellow of the American Academy of Ophthalmology and Otolaryngology, Dr. Shreve also belonged to the Erie County Medical Society, of which he was a past president.

He was one of the founders of the University Club in 1913 and was its president in 1917. He was a 32nd degree Mason and a member of the Episcopal church.

Dr. Shreve died on September 13, 1945, at the age of 84. Survivors are his wife, one son, a daughter and two grandchildren, all of Erie.

MARSHALL B. STEWART

Dr. Stewart was born May 2, 1893 in Los Angeles, California. He received his preliminary education in Los Angeles. In 1917 he obtained a D.D.S. degree from the College of Physicians and Surgeons, San Francisco, and in 1928, an A.B. degree from the University of Southern California. He received his medical degree from Temple University School of Medicine, Philadelphia, on June 16, 1932.

Dr. Stewart was elected to membership in the American Academy of Ophthalmology and Otolaryngology in 1944. He was also a member of the Michigan State Medical Society and the Houghton County Medical Society.

At the time of his death, Dr. Stewart held the rank of Major, A.U.S., Retired. He died on December 3, 1945. Funeral services were held at Dormansville, New York, and burial was in Arlington National Cemetery.

THOMAS MILTON STEWART

Dr. Stewart was born on May 13, 1866, and died in Cincinnati, Ohio, on December 10, 1945. He obtained his early education at Cincinnati Chickering Institute and received his medical degree from Pulte Medical College, Cincinnati, in 1887. After doing postgraduate work in New York and at Berlin University, Dr. Stewart was licensed to practice medicine in 1896.

Dr. Stewart served as Professor of Anatomy, Laryngology, and Ophthalmology at Pulte Medical College, Cincinnati, and was also on the staff of Bethesda Hospital, Cincinnati.

He was a member of the American Medical Association, the Ohio State Medical Association and a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, as well as a Fellow of the American College of Surgeons.

His interests other than medical included a membership in the Literary Club and Author's Club, London, England, a membership in the American Association for the Advancement of Science, Phi Gamma Nu Honorary Fraternity and the American Lodge F&AM Scottish Rite.

Dr. Stewart wrote a book on Ancient Symbolic Teaching and Symbolism of the Gods of the Egyptians, in addition to making various contributions to magazines.

EDWARD STIEREN

Dr. Edward Stieren, Pittsburgh, Pennsylvania, died on January 8, 1946 at the age of 72 years.

A graduate of Western Pennsylvania Medical College, Pittsburgh, in 1896, he did postgraduate work at Johns Hopkins Hospital and began the practice of medicine in Pittsburgh.

Dr. Stieren was a specialist certified by the American Board of Ophthalmology; in 1933 a member of the House of Delegates of the American Medical Association. He was a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the American Ophthalmological Society, the Pennsylvania State Medical and Alleghany County Medical Society, and the Pittsburgh Ophthalmological Society.

He was a member of the Presbyterian church.

Dr. Stieren is survived by his wife, Rachael Robbins Stieren, and two daughters.

HORACE F. TANGEMAN

Dr. Horace F. Tangeman was born in Cincinnati, Ohio, April 2, 1888, the son of Mrs. Anna Geier Tangeman, Cincinnati, and Dr. C. W. Tangeman, Cincinnati, eye, ear, nose and throat specialist.

Dr. Tangemann received a B.A. degree from Miami University in 1910 and the following year began the study of medicine in the Medical Department of the University of Cincinnati, graduating in 1912.

He interned at Christ Hospital, and then studied ophthalmology and otolaryngology at the University of Vienna. Upon receiving his certificate from the University at Vienna, he went to England where he worked in the London hospitals under well-known otolaryngologists.

He served as captain in the Medical Corps during World War I. Returning to Cincinnati after the armistice, Dr. Tangeman became associated as junior partner with another doctor, where he worked until the death of his father in 1923, when he took over the latter's practice in the Union Central Building.

Dr. Tangeman was a member of the National Otolaryngological Society, the American Medical Association, a Fellow of the American Academy of Ophthalmology and Otolaryngology and of the American College of Surgeons, and a member of the Ohio State Medical Association.

The Tangeman snare for the removal of polyps in the external ear canal was designed by Dr. Tangeman; also a curved tip for a Kromayer antrum tube, which made it especially applicable for the natural opening of the maxillary sinus. In addition he worked out a treatment for the relief of hay fever. Another equally important contribution to the field of Otolaryngology was the so-called Tangeman Canula.

Dr. Tangeman is survived by his wife, Mrs. Norma Rost Tangeman, one sister, and a nephew.

SAMUEL WILLIAM SPENCER TOMS

Born in Elyria, Ohio, on December 11, 1861, Dr. Toms died in Nyack, New York, on August 22, 1945, at the age of 83. Obtaining his M. D. from the University of Buffalo School of Medicine in 1891, he did postgraduate work in ophthalmology at the Postgraduate Medical School and Hospital, New York City, and began practice in Bellport, Long Island in 1893. In 1898 he established a practice in Nyack, New York, where he later became Director of Eye, Ear, Nose and Throat at Nyack Hospital.

Dr. Toms was a Life Fellow of the American Academy of Ophthalmology and Otolaryngology, a member of the House of Delegates of the American Medical Association in 1911, 1913 and 1914; Fellow of the New York Academy of Medicine; a member of the Rockland County Medical Society and the New York State Medical Society. He served as a major in the medical corps in World War I. Dr. Toms was a member and a former chairman of the publication committee of the New York State Journal of Medicine.

He is survived by a sister, Frances Helen Toms.

THOMAS FRANCIS WELSH

Born in Park City, Utah, April 22, 1900, Thomas F. Welsh attended the Park City High School and George Washington University before entering Creighton University, Omaha. In 1923 he won a master's degree and in 1925 was graduated from the Creighton University School of Medicine.

After studying ophthalmology and otolaryngology in Vienna, Dr. Welsh returned to this country and began practicing in Park City in 1927. He was certificated by both the American Board of Ophthalmology and the American Board of Otolaryngology in 1934, and became a Fellow of the American Academy of Ophthalmology and Otolaryngology the same year.

Settling eventually in Salt Lake City, Dr. Welsh served on the staffs of the Holy Cross and St. Mark's hospitals and was consultant at the Veterans Administration Facility.

Dr. Welsh's professional affiliations, in addition to state and county organizations, were with the Western Ophthalmological Society, Pacific Coast Oto-Ophthalmological Society, American Medical Association, American College of Surgeons, American Laryngological, Rhinological, and Otological Society, and the

American Academy of Ophthalmology and Otolaryngology.

Dr. Welsh's hobby was yachting.

He died May 13, 1945, leaving his wife, Helen Reid Welsh, a son and two daughters.

JAMES WATSON WHITE

Dr. James Watson White, professor of clinical ophthalmology at the New York Postgraduate Medical School and Hospital, Columbia University, where he was director of the service, died on May 15, 1946, in Mountainside Hospital in Montclair, New Jersey.

Born in New Hambur, Dutchess County, New York, on July 3, 1876, Dr. White received his early education at Mount Beacon Military Academy, Beacon, New York. He taught school for five years before entering Albany (N. Y.) Medical College where he earned his medical degree in May, 1905. As postgraduate work he took up the subject of Ocular Muscles under Alexander Duane and was an associate of his from 1913 to 1926.

Dr. White contributed many important and original observations in lectures and writings, among which are "Diagnostic Card of J. W. White," designed to clarify the diagnostic position of the eyes and "Recession of the Inferior Oblique." An international authority on Ocular Motor Anomalies, he conducted many advanced courses on Extraocular Muscle Anomalies, of which many specialists partook.

Among his hospital and teaching appointments were the following: Professor of clinical ophthalmology, executive officer of the New York Postgraduate Medical School Department of Ophthalmology; director of the hospital's service of ophthalmology; consultant Roosevelt Hospital in New York, Brooklyn Eye and Ear Hospital, Brooklyn, N. Y., Mountainside Hospital in Montclair, N. J., Essex County Contagious Disease Hospital in Belleville, N. J., Newark Eye and Ear Hospital, Newark, N. J., attending surgeon Herman Knapp Memorial Hospital from 1914 to 1933; former consultant Vanderbilt Clinic and Sloane Hospital, New York.

Dr. White was a Fellow of the American Academy of Ophthalmology and Otolaryngology and of the New York Academy of Medicine, a member of the American Medical Association, the New York and County Society, the American Ophthalmological Society, the Orange Clinical Society, Orange, N. J.; chairman of the section of ophthalmology, Medical Society of the State of New York, 1925; chairman of the section of ophthalmology New York Academy of Medicine 1938-1939; member of Fultonville Lodge F.&A. Masons, Dutchess County Society, the Montclair, N. J. Golf Club and Montclair Glee Club.

He was interested in literature, poetry, music and fishing.

Surviving Dr. White are his widow, Margaret McClellan White, a daughter, Miss Betty White and a sister, Miss Mary D. White.

THOMAS J. WILLIAMS

Dr. Thomas J. Williams, 63, eye, ear, nose and throat specialist, died suddenly of a heart attack at his home in Evanston, Illinois, on August 10, 1945.

He had been one of the leading eye, ear, nose and throat men in the Chicago area for over 25 years, maintaining offices in Chicago and in Evanston.

Born in Colwyn Bay, North Wales, Dr. Williams was graduated from the University of Iowa in 1908, and did much study abroad. For over ten years he was head of the department of ophthalmology and otolaryngology at the Illinois Postgraduate Medical School.

He was a member of the Royal College of Surgeons, Edinburgh, Scotland, a Fellow of the American College of Surgeons, and of the American Academy of Ophthalmology and Otolaryngology, as well as a member of the Chicago organizations of his profession.

Dr. Williams traveled widely in his younger days and was considered an artist of narration—his travels providing the background for his story-telling art.

Dr. Williams served as captain in the medical corps during World War I.

Surviving him are two sisters and a brother.

SCIENTIFIC EXHIBITS

O. E. Van Alyea, M.D., *Chairman*
Chicago, Illinois

Georgiana Dvorak-Theobald, M.D.,
Consultant
Oak Park, Ill.

Exhibitor:
RUDOLF AEBLI, M.D.
New York Post Graduate Hospital & Medical School,
Columbia University

Co-Exhibitor:
LOUISE MEEKER, M.D.

Cyclopian Eye with lateral proboscis with normal one-half face.

Photomicrographs of a case of cyclopian eye showing two corneae, two irises, two pupils and two sphincter muscles are presented. Also sections of the proboscis. The relationship of cleft palate, hair lip, lateral proboscis and cyclopian eye is demonstrated. Charts showing the recorded cases and the relationship of these congenital abnormalites to incomplete twining are presented. Pictures and progress of our case, now six years old, are shown.

Exhibitor:
J. E. ASH, Col., M.C., U.S.A.
BY INVITATION
Army Institute of Pathology
Washington, D. C.

Co-Exhibitors:
HELENOR CAMPBELL WILDER
BY INVITATION
LAWRENCE P. AMBROGI
BY INVITATION

I-a. Unusual Tumors of the Eye. I-b. Ophthalmic Material during the War.

II. Otolaryngic Material during the War.

I-a. Recent additions to the Registry of Ophthalmic Pathology of rare tumors of the eye are illustrated by black and white and color photography.

I-b. A tabulation of Army cases.

II. Tabulations of material received during the war are presented with illustrations in black and white and color of several significant entities.

Exhibitor:
K. W. ASCHER, M.D.
BY INVITATION
College of Medicine,
University of Cincinnati,
Cincinnati, Ohio

Aqueous Veins
Biomicroscopy of Intraocular-Fluid Elimination

Blood-vessel-like structures, containing aqueous humor mixed at varying proportions with blood, are biomicroscopically visible in the limbal region of more than one-third of all quiet human eyes. They show characteristic responses to physiologic, mechanical, and pharmacologic factors. Compression of the recipient vessels produces either expulsion of blood from the aqueous vein or backflow of blood into the same. Expulsion of blood has never been encountered in eyes suffering from compensated glaucoma. There is, however, evidence of responsiveness to successful treatment with miotics or to surgery.

BIOLOGICAL PHOTOGRAPHIC ASSOCIATION, Inc.

Medical Photography

The exhibit includes examples on medical photography with special emphasis on material of interest to the ophthalmologist and otolaryngologist.

Exhibitor:
FRANK E. BURCH, M.D.
St. Paul, Minn.

Co-Exhibitor:
REINHARDT L. SCHMIDTKE, M.D.
BY INVITATION

Types of Macular Pathology

Approximately 50 enlarged transparencies of macular pathology together with brief descriptive data will be shown in colors.

They illustrate congenital inflammatory and degenerative changes in the macula photographed with the fundus camera, valuable for teaching and for record in progressive conditions.

Exhibitor:
WALTER H. FINK, M.D.
Minneapolis, Minn.

An Anatomical Study of the Oblique Muscles of the Eye

Exhibit will consist of 100 eyes showing dissection of the superior and inferior muscles and photographs and charts describing the various types of oblique muscles. Also a series of Kodachrome pictures will be shown.

Exhibitor:
SAMUEL FOMON, M.D.
BY INVITATION
Manhattan General Hospital
New York, N. Y.

Co-Exhibitors:
PHILIP G. MacDONALD, M.D.
New York, N.Y.
BRUNO L. GRIESMAN, M.D.
New York, N.Y.
MAURICE H. COTTLE, M.D.
Chicago, Ill.

Plastic Otolaryngologic Surgery

Plastic Reconstruction of septum demonstrated by 28 cases and animated moving pictures of the operation.

Anatomy of the external nose with original diagrams and anatomic material.

Reconstruction of the external nasal pyramid for physiologic purpose.

Exhibitor:
NOAH FOX, M.D.
Department of Otolaryngology
University of Illinois
Chicago, Ill.

Co-Exhibitor:
R. KESEL, M.D.
BY INVITATION

Oral Lesions

The exhibit consists of a series of kodachrome pictures depicting grossly the oral lesions encountered in every day practice.

Exhibitor:
PAUL H. HOLINGER, M.D.
University of Illinois College of Medicine
Chicago, Ill.

Co-Exhibitors:
THOMAS JONES, M.D.
BY INVITATION
ALBERT H. ANDREWS, JR., M.D.

Endoscopic Photography in Otolaryngology and Broncho-Esophagology

This exhibit will consist of kodachrome and black and white transparencies of the endoscopic anatomy and pathology of the ear, nose and throat, the tracheobronchial tree and esophagus. A flash camera developed for this photography will be shown, together with a new motion picture camera developed for this endoscopic photography. This camera is of new design, not previously exhibited.

Exhibitor:
CHEVALIER L. JACKSON, M.D.
Temple University Hospital
Philadelphia, Pa.

Co-Exhibitor:
CHARLES M. NORRIS, M.D.

Carcinoma of the Bronchus

Transparencies, charts and sketches illustrating the clinical features of bronchogenic carcinoma, the various procedures by which accurate histologic diagnosis may be established, and the criteria by which operability may be evaluated.

Exhibitor:
WILLIS S. KNIGHTON, M.D.
Chairman, Committee on Glaucoma
National Society for the Prevention of Blindness
New York, N. Y.

Early Recognition of Glaucoma Saves Sight

Display consists of charts, posters, and graphic devices illustrating signs and symptoms of glaucoma easily recognizable during a general physical checkup.

Testing equipment and techniques will be included.

Exhibitor:
PETER C. KRONFELD, M.D.
Illinois Eye and Ear Infirmary
University of Illinois

Co-Exhibitor:
H. ISABELLE McGARRY, M.D.

A Five Year Follow-up of 250 Glaucomatous Eyes

The exhibit is based on the follow-up study of glaucomas of the following type:

(1) Narrow-angle,
(2) Wide-angle,
(3) Glaucoma following lens extraction, and
(4) Glaucoma secondary to uveitis.

The main object of this study was to establish a relationship between the stage of the disease at the inception of the treatment on the one hand and the efficacy of the treatment on the other hand.

Exhibitor:
NATIONAL SOCIETY FOR THE PREVENTION OF BLINDNESS
New York, N. Y.

BY INVITATION

Essential Sight Conservation Services in the Community

Consists of five large panels, illustrated, in color, on the following aspects of sight conservation: health, education, rehabilitation, safety, welfare—breaking down each aspect into its component parts.

Exhibitor:
GORDON B. NEW, M.D.
Mayo Clinic, Rochester, Minn.

Partial and Total Loss of the Nose; Plastic Reconstruction

With the aid of moulages and legends, the correction of operative defects of the nose are illustrated showing the use of flaps from the forehead, cheek, neck, chest and arm when indicated. Black and white and colored photographs of preoperative and postoperative patients are shown.

Exhibitor:
GORDON B. NEW, M.D.
Mayo Clinic, Rochester, Minn.

Cancer of the Larynx: Methods of Treatment and Results

The exhibit illustrates the methods of treatment and results for a ten-year period (1934-1945) for cancer of the larynx. The various methods of treatment such as: the use of suspension laryngoscopy, thyrotomy, laryngectomy and irradiation are illustrated by means of moulages. The fresh frozen section examination of the tissue is emphasized to show its value in determining the methods of treatment. Postoperative mortality and the end results of the operative methods are given.

Exhibitor:
GILBERT R. OWEN, M.D.

BY INVITATION

Los Angeles, California

The Axial Projection of Mayer in Attic Cholesteatoma and Chronic Mastoiditis

Roentgenologic demonstration of the "attic-aditus-antral" region by means of x-ray films, photographs, drawings, etc.

Exhibitor:
HENRY B. PERLMAN, M.D.
Chicago, Ill.

Eye Movements, Normal and Patholgic

The film includes a recording of the retino-corneal potentials and an analysis of the normal movements of the eye and those occurring in various ocular and vestibular disturbances.

Exhibitor:
THERON G. RANDOLPH, M.D.

BY INVITATION

Milwaukee, Wis.

Clinical Allergy

Posters illustrate the seasonal incidence of atmospheric pollens and spores causing inhalant allergic symptoms in the Chicago area. Other posters describe the types of food allergy and the technics of specific diagnosis and treatment.

In general the subject of inhalant sensitivity is handled briefly, food allergy in greater detail because the problems of diagnosis and treatment of food sensitivity are less generally understood.

Exhibitor:
J. M. ROBISON, M.D.
University of Texas
Houston, Texas

Application of Local Pressure to the Maxillary Sinus Mucosa

This exhibit consists of charts and roentgenograms detailing the theory and practice of the application of local pressure to the maxillary sinus mucosa. Local pressure is applied by balloons inserted through an intranasal antrotomy and then inflated with iodized oil. This use of pressure has been an aid in promoting absorption of stagnant tissue fluid in the sinus mucosa, and relieving certain patients of nasal stenosis, sinus drainage, and paroxysms of infectious asthma.

Exhibitor:
A. D. RUEDEMANN, M.D.
Cleveland, Ohio
Plastic Eye Implant

Exhibitor:
GEORGE E. SHAMBAUGH, M.D.
Chicago, Ill.
Co-Exhibitor:
ARTHUR L. JUERS, M.D.

Factors that Influence the Results of the Fenestration Operation for Otosclerosis

Clinical experience in 1,000 consecutive fenestration operations indicates that bony closure and postoperative labyrinthitis are the chief causes for failure to obtain a permanent hearing improvement. Experimental fenestration operations on the monkey have demonstrated certain of the factors that influence bony closure and labyrinthitis. A new fenestration technic to take advantage of these factors has reduced bony closures to less than 5 per cent of operations done on the human and has reduced the incidence of labyrinthitis. Photomicrographs will be shown to demonstrate these factors; specimens and apparatus used in the improved fenestration operation will be demonstrated.

Exhibitor:
MAURICE F. SNITMAN, M.D.
The University of Illinois
College of Medicine
Chicago, Ill.
Co-Exhibitors:
E. V. PELLETTIERE, M.D.
M. SKOLNIK, M.D.
BY INVITATION
D. J. CRONIN, M.D.
BY INVITATION
W. A. DONNELLY, M.D.
BY INVITATION

Surgery of the Neck

This exhibit deals with the fundamental principles governing surgery of the neck. The stages of dissection of the neck in the approach to the carotid region, larynx and submaxillary areas will be demonstrated by illustration and specimen from the cadaver.

Exhibitor:
H. SAUL SUGAR, M.D.
Chicago, Ill.
Co-Exhibitor:
HARVEY FORSTNER, D.D.S.
BY INVITATION

Methacrylic Resin Lid Implant for Correction of Sinking of the Upper Lid Following Enucleation

This exhibit covers the use of methyl methacrylate as a permanent tissue implant within the upper lid. The posters describe the method of their manufacture, the operative procedure for their insertion and the photographed results in a series of 20 cases.

TECHNICAL EXHIBITS

Grateful appreciation is expressed to the Technical Exhibitors

Acousticon Division, Dictograph Products Inc., New York, N. Y.
Booths 47 and 48

American Optical Company, Southbridge, Mass. **Booths 34 thru 40**

The American Optical Company will have on exhibit a complete line of their ophthalmic instruments and equipment; a line of special eye, ear, nose and throat instruments and also instruments from their scientific products.

Members and guests of the American Academy of Ophthalmology and Otolaryngology are cordially invited to visit these booths, where a staff of trained instrument representatives will take pleasure in demonstrating and explaining any instrument that may be of interest to their profession.

Aurex Corporation, Chicago, Ill.
Booths 27 and 28

The Aurex Corporation display at the 1946 annual convention of the American Academy of Ophthalmology and Otolaryn-

gology will consist of: (1) wearable, desk-type, and group hearing aids with explanations regarding differences in the output characteristics of each electrically displayed; (2) the new Aurex battery-powered, portable audiometer for the purposes of testing and evaluating hearing losses; (3) The Electro-Larynx, an instrument used for speaking purposes by those persons having been deprived of their vocal mechanism either through injury or disease; (4) the Wire Recorder for both home and office use for recording and reproducing purposes.

Barnett Optical Laboratories, Chicago, Ill. Booth 61

The Barnett Optical Laboratories of Chicago will present the new Copeland Super-Viewer for Kodachrome transparencies, sizes from 2"x2" up to 3¼"x4¼". This includes the standard lantern size slide, size 3¼"x4".

The Slide Library of Eye Diseases and Injuries will be displayed along with lighting systems and complete clinical photographic units for anterior segment eye photography.

Bausch & Lomb Optical Co., Rochester, N. Y. Booth 32

Ophthalmologists who attend the annual meeting of the Academy will have an opportunity to get firsthand information about the Bausch & Lomb Industrial Vision Service, a plan which enables industrial management to utilize more completely the visual skills and capacities of employees. By means of the Ortho-Rater, a Bausch & Lomb instrument, and a visual fact-finding system, the need for professional eye care by many employees on many jobs is revealed, and to a greater degree than has been suspected.

At the last meeting, in 1944, Academy members saw the original Gladys McHugh anatomical paintings from the Bausch & Lomb publication, "The Human Eye in Anatomical Transparencies." This unique book, which has been hailed as the greatest pictorial presentation of ocular anatomy, is now in its third printing. Copies will be on display and available for inspection at the 1946 convention.

The Bausch & Lomb exhibit will also show modern ophthalmic instruments for diagnosis and refraction, including the DeLuxe Refracting Unit, Greens' Refractor, Poser Slit Lamp, Binocular Ophthalmoscope and many others.

Ophthalmologists who are considering new offices, or the modernization of their present facilities, will find real inspiration in a series of large size, full color paintings of up-to-the-minute ophthalmic offices. This series demonstrates various treatments and arrangements of space and rooms for reception, office assistant, refraction, examination, and consultation, as well as suggestions for functional details such as instrument alcoves, vanity nooks, children's corners, etc. The drawings were rendered by four of America's leading architects after exhaustive research into the problems of the ophthalmic office. They originally appeared as illustrations in the Bausch & Lomb brochure, "Planning the Professional Office," which was so enthusiastically received on its recent publication. Copies of this booklet are available on request.

Bausch & Lomb Affiliated Distributors
Colonial Optical Company, New York
McIntire, Magee & Brown, Philadelphia
Riggs Optical Company, San Francisco & Chicago
Southeastern Optical Company, Richmond, Va. Booths 67, 68 and 69

Bausch & Lomb affiliated companies, will exhibit a complete array of Bausch & Lomb ophthalmic equipment. In addition, there will be a featured showing of the new Wottring Troposcope (Major Amblyoscope) along with other new developments in orthoptic and visual training apparatus. This includes the Vectometer, a new polaroid-type stereoscopic trainer providing variable base-in and base-out effects; and the Vectoluminator, a self-illuminated unit employing six, large-size Vectograph transparencies for screening and testing visual skills. Other devices on display will be a germicidal lamp for sterilizing instruments and a new lens measure. Representatives from the affiliated companies will be in attendance.

Belgard, Inc., Chicago, Ill. Booths 44 and 45

Belgard, Inc., invites eye physicians to view things new.

Belgard Spero, Inc., (House of Vision), Chicago, Ill. Booth 15

Our exhibit will show the latest developments in contact lens making and fitting, and the latest advances in general lens grinding techniques.

Bell & Howell Company, Chicago, Ill. Booth 62

We will exhibit motion picture cameras, projectors and accessories, and also 2x2 slide projectors and sound motion picture projectors.

Literature will be available on our extensive 16mm film library.

Bristol Laboratories, New York, N. Y. Booth 24

The keynote of the Bristol Laboratories display at the American Academy of Ophthalmology and Otolaryngology Convention is a set of "before" and "after" photographs of case histories of penicillin therapy in 8"x10" full color transparencies. Package material of penicillin and other parenterals are also on display.

Camel Cigarettes, New York, N. Y. Booths 51 and 52

CAMEL Cigarettes will present a dramatic full-color review of their recent medical research on smoking, as well as the details of the nation-wide survey showing that "More Doctors Smoke Camels Than Any Other Cigarette." Another panel will illustrate the absorption of nicotine in the respiratory tract. Representatives will discuss any part of the exhibit with you.

Cameron Surgical Specialty Company, Chicago, Ill. Booth 55

See the new Stainless Steel, Ground-Free, Magnifying Bronchoscopes, Esophagoscopes and Laryngoscopes which can be safely used from either electric light current or batteries; the Binocular Loupe and Mirrolite for the fenestration operations and other delicate surgery; the Cauterodyne for modern Eye, Ear, Nose and Throat electro-surgery; the Magniscope; the Flexible Omniangle Gastroscope; Ophthalmoscopes; Otoscopes; Nasoscopes and other improved instruments for diagnosis, treatment and surgery in ophthalmology and otolaryngology.

Clay-Adams Company, Inc., New York, N. Y. Booth 31

The Clay-Adams Company will exhibit approximately 600 Kodachromes (Medichromes) showing the normal and pathological histology of the eye, clinical photographs, fundus pictures, and a series on the Bacteriology of the Eye. There will also be a section on the Normal Anatomy of the Head Region. The exhibit will include a display of the 2"x2" Projectors, Kodachrome Viewers and View Boxes, and Kodachrome Slide Files, for use in visual demonstrations.

Contact Lens Service, Inc., New York, N. Y. Booth 89

DeVilbiss Company, Toledo, Ohio Booth 42

Modern instruments for spray application, oral inhalation, powder insufflation, local application, and steam inhalation will be on display at the DeVilbiss Exhibit. Mr. L. H. Smock will be in charge.

Doho Chemical Corporation, New York, N. Y. Booth 57

The makers of "AURALGAN" are introducing at this meeting their new sulfa drug preparation "OTOSMOSAN", indicated in the treatment and control of chronic suppurative ears. Our representatives will be happy to explain, in detail, the workings of these medications; also to distribute our latest series of three Anatomico-Pathologic Charts of the Ear, in color, suitable for framing.

Grune & Stratton, Inc., New York, N. Y. Booth 59

Grune and Stratton, New York publishers, will have copies of the long-awaited METHODS OF NEURO-OPHTHALMOLOGICAL EXAMINATION by A. Kestenbaum which is just off the press. Nearly two hundred signs and tests are described in the book. Spiegel and Sommer's NEUROLOGY OF THE EYE, EAR, NOSE, AND THROAT is available in a second printing. Among the other publications, the new Second Edition of ALLERGY by Urbach and Gottlieb is of particular interest. Advance material will be shown of the text and illustrations of A. M. Brown's MODERN PLASTIC SURGICAL PROSTHETICS.

Guild of Prescription Opticians of America, Inc., Philadelphia, Pa. Booths 74 and 75

Hollister-Stier Laboratories, Spokane, Wash. Booth 83

Physicians attending the convention who are interested in treating allergy cases are cordially invited and should

spend a few profitable minutes at the Hollister-Stier Allergy Exhibit.

Literature and complete up-to-the-minute information on all matters pertaining to allergy will be available.

Hollister-Stier allergenic products are Council accepted and are supplied through their personalized nation-wide allergy service.

Invisible Lens Service, Buffalo & Syracuse, N. Y.; Stroudsburg, Erie & Scranton, Pa.; Cleveland, Ohio; Indianapolis, Ind.; Detroit, Mich.
Booth 65

Our services on the molding, fitting, and technical work on Invisible Lenses give the ophthalmologist a complete service for his patients.

We will display complete equipment, and our technician in charge will explain in detail our services or will call at your office should you be located in Ohio, New York, Pennsylvania, Indiana, or Michigan.

Vision has been restored on conical corneas, corneal scars, high myopes, and cataract cases. Consult us on your difficult refraction cases.

Our services are recommended by all the leading ophthalmologists.

Keystone View Company, Meadville, Pa.
Booth 50

The Keystone View Company's exhibit features a new approach in the training of squint through the use of the Stereomotivator and the Keystone Overhead Projector. This gives third dimension on a screen through the use of Colordepth slides. You are invited to stop at the booth for a demonstration of this new technic.

Lea & Febiger, Philadelphia, Pa.
Booth 81

Lea and Febiger will exhibit among their books Spaeth's "Principles and Practice of Ophthalmic Surgery"; Cowan's "Refraction of the Eye"; Ballenger's "Manual of Otology, Rhinology and Laryngology"; Ballenger's "Diseases of the Nose, Throat, and Ear"; Bell's "Renal Diseases"; Ewerhardt & Riddle's "Therapeutic Exercise"; Scott and VanWyck's "Obstetrics & Gynecology"; Stone & DeFault's "The Diagnosis and Treatment of Pulmonary Tuberculosis"; Soffer's Diseases of the Adrenals"; and such recent publications as Davidoff & Dyke's "The Normal Encephalogram"; Joslin's "Treatment of Diabetes Mellitus"; Levinson & MacFate's "Clinical Laboratory Diagnosis"; Katz' "Electrocardiography"; Katz' "Exercises in Electrocardiographic Interpretation"; MacKee's "X-rays and Radium in the Treatment of Diseases of the Skin"; Schwartz, Tulipan & Peck's "Occupational Diseases of the Skin"; Wintrobe's "Clinical Hematology" and other standard works.

Mager & Gougelman, Inc., Chicago, Ill.
Booths 45 and 46

The Maico Company, Inc., Minneapolis, Minn. **Booths 22 and 23**

The Maico Company exhibit will feature Audiometers and Hearing Instruments. Included in the exhibit will be the new Maico D-9 Audiometer featuring an attenuator made of precious metal alloys, a development which adds years to wearability and increases accuracy of attenuation far beyond types used heretofore. The new Atomeer, light weight, single unit hearing instrument and HEARRINGS, the receiver concealed in an earring will also be shown.

Medical Case History Bureau, New York, N. Y. **Booth 63**

An inexpensive Case History Method—a system that shows at a glance the case you want, how many calls you made and when, the patient's history, the developments and treatments, as well as the financial status of each case. Of special interest is the unique method by which interesting cases may be cross-indexed according to the disease directly on the patient's history chart. Representatives in the booth will gladly demonstrate how these records are actually kept in the files.

Medical Film Guild, New York, N. Y.
Booth 33

Medical Film Guild through their "MEDICAL FILMS THAT TEACH" presents a refresher course in fundamental medical problems. This program, during the war period, kept the military medical man abreast of modern civilian practice. These new subjects reorient the military doctor to civilian procedures. These films, representing several years of research, are condensed into half-hour productions,

each acting as a visual text book. They review such subjects as Parkinson's Disease, the major neuralgias, cervicitis, otolaryngological diseases, contagious diseases, arterial blood pressure, hypothyroidism and industrial medicine. They are available to medical societies, medical schools and hospitals and include projection service at no charge, through grants for postgraduate instruction.

Wm. S. Merrell Company, Cincinnati, Ohio. Booth 43

Featured this year at the Merrell exhibit will be the distinctive alkaline germicidal solution, Cēpacol, which combines a rapid bactericidal action with a mucin-clearing detergency, for more effective management of inflammatory conditions of the pharynx. Used as spray or gargle, Cēpacol has a pleasant, refreshing flavor that encourages cooperation by the patient.

C. V. Mosby Company, St. Louis, Mo. Booth 58

The C. V. Mosby Company will exhibit its complete line of medical publications. Among the newer items to be shown will be the new edition of Tassman's "Eye Manifestations of Internal Diseases" and Polyak's "The Human Ear in Anatomical Transparencies."

Visitors to the convention are cordially invited to inspect the publications in the Mosby booth.

V. Mueller & Company, Chicago, Ill. Booths 1 thru 6

The remarkable new Eder Gastroscopes, both the flexible and the Flexi-Rigid models, will have a prominent place in the V. Mueller & Company exhibit. You are particularly invited to examine these improved instruments for the technical advancements and the advantages they bring to the modern diagnostician. There will also be a complete line of fine Mueller-made instruments for surgery of the eye, ear, nose and throat, as well as a selection of new items, products of our wartime developments and research. Modern Ritter office equipment will be an additional feature of the V. Mueller & Company display.

National Contact Lens Corp., New York, N. Y. Booth 82

The National Contact Lens Test Set will be on display. It contains 237 ALL-PLASTIC Contact Test Lenses. There are 225 different scleral curves varying from 12.0 mm., progressing 0.2 mm., to 14.8 mm. incl. This means that there are 15 spherical scleral lenses and 210 toroidal scleral lenses which have an 8.5 corneal base curve. In addition to the 225 scleral test lenses there are six pairs of corneal test lenses used not only for testing corneal clearance, but also with which the doctor refracts. These lenses in pairs are 6.5 mm., 7.0 mm., 7.5 mm., 8.0 mm., 8.5 mm., and 9.0 mm.

The scleral test lenses measure approximately 24 by 23 mm., whereas the corneal test lenses are 22 mm. round with a scleral curve of 13.4 mm. The diameter of all corneal segments is 13 mm.

In addition to the National Contact Lens Test Set, other accessories will be displayed such as the NACOLE U-V Lamp, pocket cases, etc.

New Jersey Optical Company, Irvington, N. J. Booth 76

At the Convention in October, the New Jersey Optical Company will feature their line of quality frames and mountings—including Nu-Mont, E-Z-Mont and Wils-edge—and their invariable guarantee of 50/1000 Fine Gold.

The adaptability of Wils-edge—a unique mounting which holds lenses without holes or screws—and its increasing use in meeting the new demands of the current style vogue will merit careful consideration.

Novocol Chemical Mfg. Co., Inc., Brooklyn, N. Y. Booth 12

The specialties of Ophthalmology, Otorhinolaryngology and Plastic Surgery unquestionably have been quick to accept and enjoy the many advantages of the new, safe, more potent local anesthetic preparation—MONOCAINE HCl—accepted by the Council of Pharmacy & Chemistry of the American Medical Association. The very convenient Anestube (metal cap cartridge) system which offers the aspirating feature, merits your consideration. Stop at our booth to learn more about one of the most frequently used preparations in the practice of our specialty.

Obrig Laboratories, Inc. Booth 64

The ever increasing popularity of Contact Lenses makes it imperative that every ophthalmologist be conversant with the facts regarding this modern method of vision correction. A feature of the Obrig Laboratories' exhibit, pioneers in the manufacture of plastic contact lens, is an automatic slide film showing the use of contact lenses in various eye conditions.

Otronics Company of America, Inc., New York, N. Y. Booth 26

Philip Morris & Company, New York, N. Y. Booth 16

Philip Morris & Company will demonstrate the method by which it was found that Philip Morris Cigarettes, in which diethylene glycol is used as the hygroscopic agent, are less irritating than other cigarettes. Their representative will be happy to discuss researches on this subject, and problems on the physiological effects of smoking.

George P. Pilling & Son Company, Philadelphia, Pa. Booths 77, 78 and 79

Despite shortages, George P. Pilling and Son Company of Philadelphia will exhibit Eye, Ear, Nose and Throat and Bronchoscopic Instruments.

It is hoped that a number of new instruments now in preparation will be ready to show at that time.

Since the last exhibit, this firm has erected and is now occupying an entirely new building, No. 3451 Walnut Street, where the increased facilities provided will make possible a larger output and improved service.

Precision Contacts, Minneapolis, Minn. Booth 29

Contact Lenses are becoming an increasingly important factor in the practice of ophthalmology.

Precision Contacts presents an interesting and informative exhibit of up-to-date developments in the field of contact lens practice. Fitting equipment will also be on display and complete information on availability of contact lens fitting instruction will be given.

Artificial eyes of 100% plastic together with cosmetic contact lenses will be included in display.

Premier Optical Products, Inc., New York, N. Y. Booth 25

Professional Press, Chicago, Ill. Booth 80

The Eye, Ear, Nose and Throat Monthly is a practical journal for the specialist. Contains leading clinical articles, Clinic of the Month, Student's Forum and other feature sections. Its editorial policy is uninfluenced—the main objective being to keep up with all that is new in scientific ophthalmology and otolaryngology.

Radium Chemical Company, Inc., New York, N. Y. Booth 56

The new type radium nasopharyngeal applicator for the treatment of deafness caused by hyperplastic lymphoid tissue will be displayed. This applicator was designed by Radium Chemical Company, Inc. with the advice of otolaryngologists specializing in this work for nearly twenty years. The applicator is used by the Army Air Forces, U. S. Navy, the Marine Corps and more than 300 clinics and specialists throughout the country.

Ritter Company, Inc., Rochester, N. Y. Booths 17 thru 21

On exhibition are the Ritter Ear, Nose and Throat Unit, complete with instruments, Ritter Motor Chair, the Ritter Shockproof X-ray, Ritter Compressor, Ritter Rest and Relief Stool, Ritter Mobilrest Stool, Ritter Fluorescent Light, Ritter Sterilizer and Ritter Bone Surgery Engine.

Schenley Laboratories, Inc., New York, N. Y. Booth 41

The Schenley Laboratories' exhibit is devoted entirely to penicillin and penicillin products. A series of trans-illuminated Kodachromes of various pyogenic skin infections shows the therapeutic efficacy of Penicillin Ointment Schenley. A well-informed attendant will gladly discuss any phase of penicillin therapy and developments with interested physicians.

Smith, Kline & French Laboratories, Philadelphia, Pa. Booth 72

PAR-PEN: Par-Pen combines—in a single preparation—the potent antibacterial action of penicillin with the rapid and prolonged vasoconstriction of Paredrine Hydrobromide Aqueous. Further-

more. Par-Pen largely solves the troublesome problem of penicillin's instability in the presence of moisture.

In acute sinusitis and in flare-ups of chronic sinusitis, Par-Pen may be used to irrigate the sinuses; may be administered by the displacement technic; or by tampon.

Soft-Lite Lens Company, Inc., New York, N. Y. Booths 70 and 71

Ophthalmologists in increasing numbers find that neutral light absorption, the Fourth Component of the ophthalmic prescription, is often needed to bring comfort to patients who require protection from glare and over-brilliance. Soft-Lite Lenses, in five degrees of absorption, provide glare control and are available in every single vision and multifocal form. Made by Bausch & Lomb, their unquestioned quality and complete selection of lens forms have made Soft-Lites the most widely prescribed absorptive lenses in the world today.

Sonotone Corporation, New York, N. Y. Booth 30

The new book, "THE HUMAN EAR IN ANATOMICAL TRANSPARENCIES," will be featured by the Sonotone Corporation in their booth. A large-size mechanical book with automatic, turning pages will display the transparencies, the outstanding feature of this new work.

The transparent illustrations, printed on acetate pages, show sections through the ear and its adjacent structures. These unbelievably accurate plates, built up, layer upon layer, show all of the related parts so that they can be clearly understood and studied. For the first time, it is possible to "see through" the anatomy of the ear and head.

The test is the work of S. L. Polyak, M. D., Professor of Anatomy, The University of Chicago; the profuse illustrations were painted by Gladys McHugh, well-known medical illustrator of the University of Chicago Clinics; while the anatomical preparations were done by Delbert K. Judd, M.D., also of the University of Chicago.

C. M. Sorensen Co., Inc., New York, N. Y. Booth 66

Sorensen Company will have on display latest models of Ear, Nose and Throat equipment (treatment, as well as surgical units). The DeLuxe will be furnished with coagulator and cutting current. Operating-room equipment has explosion-proof features.

Frederick Stearns & Company, Detroit, Mich. Booths 53 and 54

Therapeutic agents useful in the practice of ophthalmology and otolaryngology will be shown at the Frederick Stearns & Company Division exhibit. Professional representatives will welcome the opportunity to discuss the Council-Accepted Neo-Synephrine Hydrochioride Ophthalmic and Neo-Synephrine Hydrochloride Intranasal products and their various dosage forms.

Storz Instrument Company, St. Louis, Mo. Booths 90 and 91

Fine eye and ear, nose and throat instruments of domestic manufacture mostly of Stainless material are on display at the Storz Instrument Company exhibit. A new factory now being completed and the return of our veterans, including Eric and Charles Storz, promise to shortly again make possible prompt shipment of all items. We appreciate the considerate patience of our customers with present delivery difficulties. In attendance will be Mrs. K. Storz, Eric Storz, and Charles R. Storz, Sr.

Surgical Mechanical Research, Los Angeles, Calif. Booth 49

Uhlemann Optical Company, Chicago, Ill. Booths 7 and 8

Exhibit—PHYSICIAN'S QUALITY GLASSES AND EQUIPMENT. First to serve the ophthalmologist exclusively. Let us tell you of our service.

Univis Lens Co., Dayton, Ohio Booths 13 and 14

Washington Institute of Medicine, Washington, D. C. Booth 86

Western Electric Company, New York, N. Y. Booths 84 and 85

Featured at the Western Electric Booth will be a display showing the Western Electric Hearing Aid, Group Hearing Aids, and Diagnostic and School Type Audiometers.

Representatives of the Western Electric Company of 120 Broadway, New York, N. Y. will be in attendance at the Booth

to answer your questions concerning the products displayed.

The Western Electric Company is the manufacturing unit of the Bell Telephone System and producers of communication and electronic equipment.

Williams & Wilkins Company, Baltimore, Md. Booth 60

The Williams & Wilkins Company of Baltimore will show two new books of particular interest. One is "Histopathology of Ear, Nose and Throat" by A. A. Eggston, Manhattan Eye, Ear and Throat Hospital, and Dorothy Wolfe, New York City; the other is "Neuro-ophthalmology" by Frank B. Walsh, Wilmer Clinic, Johns Hopkins Hospital. Both of these books are comprehensive, well illustrated, and authoritative.

Max Wocher & Son Co., Cincinnati, Ohio Booths 9, 10 and 11

The first post-war exhibit year finds The Max Wocher & Son Company with a complete line of instruments and equipment comparable to those which the Company was wont to show in the pre-war era. The Wocher Company is noted primarily as an instrument house and prides itself on the number of models available and the excellence of the quality.

Two of the salient features of the Wocher exhibit will be their Holmes Eye, Ear, Nose & Throat Treatment Chair and the Goodyear Treatment Chair, both redesigned since the war and presenting many features which are of incalculable value to the operator who prides himself on his technic.

A careful inspection of the Wocher booth will undoubtedly prove instructive and profitable.

Wottring Instrument Co., Columbus, Ohio Booth 73

The Wottring Instrument Company are manufacturers of precision Orthoptic Equipment. The new 45B Troposcope will be shown as well as the Royal "50" Rotoscope. Basically a major amblyoscope, the Troposcope has many unusual improvements which should prove very interesting to ophthalmologists who visit our booth. Approved by the American Orthoptic Council, it is designed for diagnosis and treatment of squint cases as well as other orthoptic conditions with a unique method of visual stimulation that eliminates any awkward rocking of eyepiece assembly. The Royal "50" Rotoscope is well known in the Orthoptic field, being used successfully in obtaining results when glasses alone do not give complete comfort. Both instruments are widely and successfully used in hospitals, clinics, orthoptic schools and ophthalmologists' offices throughout the country. L. R. Wottring, E. F. Wildermuth, and Stanley E. Wolfe plan to be in attendance at the Wottring booth.

Zenith Radio Corporation, Chicago, Ill. Booths 87 and 88

Zenith Radio Corporation are exhibiting their latest model hearing aids which include outstanding developments acoustically, electrically and mechanically. New Zenith radios and radio phonograph combinations featuring the radionic cobra tone arm and silence speed record changer will also be on display.

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1896	Adolph Alt, M.D. St. Louis, Mo.	W. C. Pipino, M.D. Des Moines, Iowa	W. L. Dayton, M.D. Lincoln, Nebr.	Hal Foster, M.D. Kansas City, Mo.	Kansas City
1897	Adolph Alt, M.D. St. Louis, Mo.	W. C. Pipino, M.D. Des Moines, Iowa	W. L. Dayton, M.D. Lincoln, Nebr.	Hal Foster, M.D. Kansas City, Mo.	St. Louis
1898	B. E. Fryer, M.D. Kansas City, Mo.	J. E. Colburn, M.D. Chicago, Ill.	W. L. Dayton, M.D. Lincoln, Nebr.	Hal Foster, M.D. Kansas City, Mo.	Chicago
1899	J. E. Colburn, M.D. Chicago, Ill.	W. Scheppegrell, M.D. St. Louis, Mo.	W. L. Dayton, M.D. Lincoln, Nebr.	Thomas A. Woodruff, M.D. Chicago, Ill.	New Orleans
1900	W. Scheppegrell, M.D. St. Louis, Mo.	M. A. Goldstein, M.D. St. Louis, Mo.	W. L. Dayton, M.D. Lincoln, Nebr.	Fayette C. Ewing, M.D. St. Louis, Mo.	St. Louis
1901	M. A. Goldstein, M.D. St. Louis, Mo.	H. W. Wurdemann, M.D. Milwaukee, Wis.	W. L. Dayton, M.D. Lincoln, Nebr.	W. L. Ballenger, M.D. Chicago, Ill.	Cincinnati
1902	C. R. Holmes, M.D. Cincinnati, Ohio	W. L. Dayton, M.D. Lincoln, Nebr.	Otto Stein, M.D. Chicago, Ill.	W. L. Ballenger, M.D. Chicago, Ill.	Chicago
1903	W. L. Ballenger, M.D. Chicago, Ill.	C. J. Stillson, M.D. Indianapolis, Ind.	Otto Stein, M.D. Chicago, Ill.	Derrick Vail, M.D. Cincinnati, Ohio	Indianapolis
1904	Edward Jackson, M.D. Denver, Colo.	Dudley Reynolds, M.D. Louisville, Ky.	Otto Stein, M.D. Chicago, Ill.	Derrick Vail, M.D. Cincinnati, Ohio	Denver
1905	Hanau Loeb, M.D. St. Louis, Mo.	Derrick Vail, M.D. Cincinnati, Ohio	Otto Stein, M.D. Chicago, Ill.	George F. Suker, M.D. Chicago, Ill.	Buffalo
1906	Casey Wood, M.D. Chicago, Ill.	J. A. Stucky, M.D. Lexington, Ky.	Otto Stein, M.D. Chicago, Ill.	George F. Suker, M.D. Chicago, Ill.	St. Clair

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1907—	J. A. Stucky, M.D. Lexington, Ky.	R. A. Reeve, M.D. Toronto, Canada	Otto Stein, M.D. Chicago, Ill.	George F. Suker, M.D. Chicago, Ill.	Louisville
1908—	Derrick Vail, M.D. Cincinnati, Ohio	Joseph Beck, M.D. Chicago, Ill.	Otto Stein, M.D. Chicago, Ill.	George F. Suker, M.D. Chicago, Ill.	Cleveland
1909—	Otto Stein, M.D. Chicago, Ill.	Percy Fridenberg, M.D. New York, N.Y.	S. H. Large, M.D. Cleveland, Ohio	George F. Suker, M.D. Chicago, Ill.	New York
1910—	Wendell Reber, M.D. Philadelphia, Pa.	L. B. Lockhard, M.D. Denver, Colo.	S. H. Large, M.D. Cleveland, Ohio	George F. Suker, M.D. Chicago, Ill.	Cincinnati
1911—	J. J. Kyle, M.D. Indianapolis, Ind.	F. Parke Lewis, M.D. Buffalo, N. Y.	S. H. Large, M.D. Cleveland, Ohio	George F. Suker, M.D. Chicago, Ill.	Indianapolis
1912—	George F. Suker, M.D. Chicago, Ill.	J. W. Murphy, M.D. Cincinnati, Ohio	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Niagara Falls, Ont.
1913—	J. W. Murphy, M.D. Cincinnati, Ohio	J. O. McReynolds, M.D. Dallas, Texas	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Chattanooga
1914—	J. M. Ray, M.D. Louisville, Ky.	J. M. Ingersoll, M.D. Cleveland, Ohio	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Boston
1915—	Joseph Beck, M.D. Chicago, Ill.	Robert S. Lamb, M.D. Washington, D.C.	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Chicago
1916—	J. E. Brown, M.D. Columbus, Ohio	T. E. Carmody, M.D. Denver, Colo.	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Memphis
1917—	W. L. Dayton, M.D. Lincoln, Nebr.	Edward Stieren, M.D. Pittsburgh, Pa.	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Pittsburgh
1918—	Allen Greenwood, M.D. Boston, Mass.	Virginius Dabney, M.D. Washington, D. C.	S. H. Large, M.D. Cleveland, Ohio	L. M. Francis, M.D. Buffalo, N. Y.	Denver

PAST OFFICERS OF THE ACADEMY

Date	President	First Vice-President	Treasurer	Secretary	Meeting Place
1919—	J. M. Ingersoll, M.D. Cleveland, Ohio	Melville M. Black, M.D. Denver, Colo.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Cleveland
1920—	L. M. Francis, M.D. Buffalo, N. Y.	Hal Foster, M.D. Kansas City, Mo.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Kansas City
1921—	Emil Mayer, M.D. New York, N. Y.	John R. Newcomb, M.D. Indianapolis, Ind.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Philadelphia
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1923—	T. E. Carmody, M.D. Denver, Colo.	Hunter H. McGuire, M.D. Winchester, Va.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Washington, D. C.
1924—	W. B. Lancaster, M.D. Boston, Mass.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Montreal
1925—	Horace Newhart, M.D. Minneapolis, Minn.	John M. Wheeler, M.D. New York, N. Y.	S. H. Large, M.D. Cleveland, Ohio	Luther C. Peter, M.D. Philadelphia, Pa.	Chicago
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1927—	Ross Hall Skillern, M.D. Philadelphia, Pa.	H. W. Woodruff, M.D. Joliet, Ill.	S. H. Large, M.D. Cleveland, Ohio	William P. Wherry, M.D. Omaha, Nebr.	Detroit
1928—	Luther C. Peter, M.D. Philadelphia, Pa.	Frank L. Dennis, M.D. Colorado Springs, Colo.	S. H. Large, M.D. Cleveland, Ohio	William P. Wherry, M.D. Omaha, Nebr.	St. Louis
1929—	Harris P. Mosher, M.D. Boston, Mass.	Frank E. Burch, M.D. St. Paul, Minn.	S. H. Large, M.D. Cleveland, Ohio	William P. Wherry, M.D. Omaha, Nebr.	Atlantic City
1930—	William H. Wilder, M.D. Chicago, Ill.	Frank R. Spencer, M.D. Boulder, Colo.	S. H. Large, M.D. Cleveland, Ohio	William P. Wherry, M.D. Omaha, Nebr.	Chicago

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1932	S. Hanford McKee, M.D. Montreal, Canada	Gordon B. New, M.D. Rochester, Minn.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Montreal
1933	Burt R. Shurly, M.D. Detroit, Mich.	Nelson Miles Black, M.D. Miami, Fla.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Boston
1934	John M. Wheeler New York, N. Y.	LeRoy A. Schall, M.D. Boston, Mass.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Chicago
1935	Wells P. Eagleton, M.D. Newark, N. J.	W. Thornwall Davis, M.D. Washington, D. C.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Cincinnati
1936	Frank E. Burch, M.D. St. Paul, Minn.	Gordon F. Harkness, M.D. Davenport, Iowa	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	New York
1937	Lee W. Dean, M.D. St. Louis, Mo.	Bernard Samuels, M.D. New York, N. Y.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Chicago
1938	Harry S. Gradle, M.D. Chicago, Ill.	E. M. Seydell, M.D. Wichita, Kan.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Washington, D. C.
1939	George M. Coates, M.D. Philadelphia, Pa.	William W. Pearson, M.D. Des Moines, Iowa	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Chicago
1940	Frank E. Brawley, M.D. Chicago, Ill.	Arthur W. Proetz, M.D. St. Louis. Mo.	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Cleveland
1941	Frank R. Spencer, M.D. Boulder, Colo.	Everett L. Goar, M.D. Houston, Texas	William P. Wherry, M.D. Omaha, Nebr.	S. H. Large, M.D. Cleveland, Ohio	Chicago
1942	Ralph I. Lloyd, M.D. Brooklyn, N. Y.	Walter H. Theobald, M.D. Chicago, Ill.	William L. Benedict, M.D. Rochester, Minn.	S. H. Large, M.D. Cleveland, Ohio	Chicago
1943	James A. Babbitt, M.D. Philadelphia, Pa.	Sanford R. Gifford, M.D. Chicago, Ill.	William L. Benedict, M.D. Rochester, Minn.	S. H. Large, M.D. Cleveland, Ohio	Chicago

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1945	Gordon B. New, M.D. Rochester, Minn.	Edmund B. Spaeth, M.D. Philadelphia, Pa.	William L. Benedict, M.D. Rochester, Minn.	Meeting Cancelled

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American Academy of Ophthalmology and Otolaryngology

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Names and Addresses Corrected to April 1, 1946

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All Fellows without number designation are classified as Junior Fellows.

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①**Beattie, Robert, '06**
David Whitney bldg., Detroit 26, Mich. **OALR**
②**Beattie, William,** '21...5 Derbyshire pl., Utica 3, N. Y. **OALR**
①**Beatty, H. G.,** '16..150 E. Broad, Columbus 15, Ohio **PI S-ALR**
Beauchamp, Mark L., '44,
1136 W. Sixth st., Los Angeles 14, Calif. **ALR**
Beavis, James Olin, '36
900 Fidelity Medical bldg., Dayton 2, Ohio **ALR**
Beck, A. L., '27.....421 Huguenot, New Rochelle, N. Y. **OALR**
Beck, Frederick W., '40, Major (M.C.),
Lawson General Hospital, Atlanta, Ga. **ALR**
Beck, Robert J., '35.....105 Main, Saranac Lake, N. Y. **OP**
Becker, Oscar J., '41.30 N. Michigan av., Chicago 2, Ill. **ALR**
Beckner, William Forrest, '38
West Virginia bldg., Huntington 1, W. Va. **ALR**
①**Bedell, Arthur J., '12**.....344 State, Albany 6, N. Y. **OP**
①**Beem, Ione F.,** '16
30 N. Michigan Avenue, Chicago 2, Ill. **OALR**
Begle, Howell L., '28
2730 E. Jefferson av., Detroit 7, Mich. **OP**
Behen, William C., '33.535 S. Capitol av., Lansing 15, Mich. **ALR**
Behrens, Alvin, '33
9 Prospect Park West, Brooklyn 15, N. Y. **OP**
Beideman, J. E., '29
Montgomery Trust Arcade, Norristown, Pa. **OP**
②**Beil, J. Wallace, '18**...Bryant bldg., Kansas City 6, Mo. **OALR**
Beil, Wallace C., '43
416 American Bank bldg., New Orleans, La. **OP**
Beinfield, Henry Harold, '38
760 Eastern Parkway, Brooklyn 13, N. Y. **ALR**
Beisbarth, Carl, '31
3720 Washington blvd., St. Louis 8, Mo. **OP**
Bell, John Gordon, '40
1835 Eye Street, N. W., Washington 6, D.C. **ALR**
Bell, Julius W., '36, Lt. Comdr. (MC),
Amphibious Training Base Disp., Little Creek, Va. **ALR**
Bellows, John G., '35,
Rm. 1729, 30 N. Michigan, Chicago 2, Ill. **OP**
Bender, H. A., '30.....Black bldg., Waterloo, Iowa **ALR**
Bender, M. S., '30.....88-05 150th st., Jamaica 2, N. Y. **ALR**
Also: 121 E. 60th, New York 22, N.Y.
②**Benedict, William L., '19,** Mayo Clinic, Rochester, Minn. **OP**
Benkwith, Karl B., '42,
400 Norman Bridge rd., Montgomery, Ala. **OP**
Benson, C. E., '40....212 S. Tracy av., Bremerton, Wash. **OALR**
Benson, Kenneth H., '44, Major (MC), Address Unknown **ALR**
Bentley, Frederick, '37.....Cobb bldg., Seattle 1, Wash. **OP**
Bentley, Neil I., '22. David Whitney bldg., Detroit 26, Mich. **OALR**
Benz, Alvin H., '41, Major (M.C.)
818 N. Rush st., Chicago 11, Ill. **OP**
Berens, Conrad, '22....35 E. 70th, New York 21, N. Y. **PI S-OP**
Berger, Isidore, '40
888 Grand Concourse, Bronx, New York 51, N. Y. **ALR**
Berger, Louis, '40 Lt. (M.C.),
Ft. Wood Apts., Chattanooga, Tenn. **OP**
Berger, Meyer D., '44..681 Ocean av., Brooklyn 26, N. Y. **ALR**
Berger, Murray, '38, Major (MC),
309 Central Park West, New York 24, N. Y. **ALR**
Bergmann, M. B., '32
959 Bushwick av., Brooklyn 21, N. Y. **OP**
Berke, Raynold N., '34.....430 Union, Hackensack, N. J. **OP**
Berliner, Milton L., '31...57 W. 57th, New York 19, N. Y. **OP**
Berman, Harry L., '43..1142 Chapel, New Haven 11, Conn. **ALR**
Berman, Philip G., '35.....174 Central, Lowell, Mass. **OP**
②**Bernatz, C. F., '17**.....Park bldg., Pittsburgh 22, Pa. **OP**
Berner, George E., '37..5430 Greene, Philadelphia 44, Pa. **OP**
Berney, Irving Vincent, '43
31 Lincoln Park, Newark 2, N. J. **ALR**
Bernheimer, L. Benno, '30
104 S. Michigan av., Chicago 3, Ill. **ALR**
Berns, Charles, '35 Lt. Col. (M.C.)
11408 Whitmore av., Cleveland 8, Ohio **ALR**
Bernstein, David, '44.....4611 12th av., Brooklyn, N. Y. **ALR**
①**Berry, D. F., '11**
Bankers Trust bldg., Indianapolis 4, Ind. **ALR**
Berry, Gordon, '30.....36 Pleasant, Worcester 8, Mass. **ALR**
Bertolet, John A., '37....1530 Locust, Philadelphia 2, Pa. **ALR**
Bertrand, George Joseph, '42, 73 Main St., Montpelier, Vt. **OP**
Best, L. Kent, '35, Lt. Col. (MC),
1317 3rd av., Bradenton, Fla. **OP**
Beyer, A. G., '25.....Carew Tower, Cincinnati 2, Ohio **OALR**
②**Beyer, Louis J., '18**...449 Delaware av., Buffalo 2, N. Y. **ALR**

Beyer, Theodore E., '31..227 Sixteenth st., Denver 2, Colo. **ALR**
Biehn, J. Telford, '37,
150½ N. Front st., Sarnia, Ont., Canada **OALR**
Bilchick, Edwin B., '35, Major (M.C.),
216 W. 89th, New York 24, N. Y. **ALR**
Billings, Gilbert M., '39
110 S. Sterling, Morganton, N. C. **ALR**
Billings, Robert J., '35...500 Penn av., Pittsburgh 22, Pa. **OP**
Billingsley, J. A., '38, Huron bldg., Kansas City 10, Kans. **OP**
②**Binger, H. E.**, '17, Lowry Med. bldg., St. Paul 2, Minn. **OALR**
⑤**Binkley, Roy S., '17**.....Fidelity bldg., Dayton 2, Ohio **OALR**
Birch, John R., '39, Major (MC),
Lawson General Hospital, Atlanta, Ga. **ALR**
Birdsall, Clarence H., '37....30 Summer, Haverhill, Mass. **ALR**
Birge, Henry L., '39.....179 Allyn st., Hartford, Conn. **OP**
Birsner, Louis J., '26, Lt. Col. (M.C.),.. Address Unknown **ALR**
Bishop, Frederick J., '36
Medical Arts bldg., Scranton 3, Pa. **ALR**
Bisno, Daniel, '43.....4500 Olive, St. Louis 8, Mo. **OP**
①⑤**Black, Nelson Miles**, '03, Huntington bldg.,
Miami 32, Fla. **OP**
Black, Paul, '27.....Stuart bldg., Lincoln 8, Nebr. **OALR**
Black, W. Byron, '31.Professional bldg., Kansas City 6, Mo. **ALR**
①**Black, W. D.**, 1900..Metropolitan bldg., St. Louis 3, Mo. **ALR**
Blackford, Roger W., '44,
503 Hume-Mansur bldg., Indianapolis 4, Ind. **ALR**
Blackmar, Francis B., '31, Maj. (M.C.),
1243 Forrest av., Columbus, Ga. **ALR**
Blair, M. W., '28
N. E. cor. 20th and Chestnut, Philadelphia 3, Pa. **OP**
②**Blair, W. W., '17**.....Woodland road, Pittsburgh 6, Pa. **OP**
Blaisdell, Irl Hazard, '41
Medical Arts bldg., Syracuse 2, N. Y. **ALR**
Blankfeld, Nathan, '36
429 Lincoln pl., Sta. B, Brooklyn 16, N. Y. **ALR**
Blankstein, Samuel S., '42,
208 E. Wisconsin av., Milwaukee 2, Wisc. **OP**
Blasdel, Tyler David, '40
110½ S. 18th st., Parsons, Kan. **ALR**
Blassingame, C. D., '23
899 Madison av., Memphis 3, Tenn. **ALR**
Blaydes, J. E., '43
First Nat'l Bank bldg., Bluefield, W. Va. **OP**
①**Bledsoe, R. W.**, '07
First Nat'l Bank bldg., Covington, Ky. **OALR**
Blickenstaff, A. J., '22..Alliance Life bldg., Peoria 2, Ill. **OALR**
Bloch, Charles L., '43...2532 Ransdell av., Louisville, Ky. **OP**
Blomberg, Thorsten E., '33.501 Seventh st., Rockford, Ill. **ALR**
Blonder, Edwin J., '34, 25 E. Washington st., Chicago 2, Ill. **ALR**
Bloom, C. Hugh, '32.....65 N. 3rd, Easton, Pa. **ALR**
①**Blue, J. B.**, '16.....62 N. Main, Memphis 3, Tenn. **OALR**
①**Blum, Henry N., '14**
American Bank bldg., New Orleans 12, La. **OP**
Blumenfeld, Louis, '39
221 Brooklyn av., Brooklyn 13, N. Y. **ALR**
Blumklotz, Bruno, '43
25 E. Washington st., Chicago 2, Ill. **ALR**
Boaz, Emmett Daniel, '38
3710 Fifth av., Pittsburgh 13, Pa. **ALR**
Bochner, Maxwell K., '33..329 Bloor st. W., Toronto, Can. **OP**
Bockoven, Sterling, '38
1752 Mass. av. N.W., Washington 6, D. C. **OP**
Boden, Worthey C., '42, 6537 Kenwood, Chicago 37, Ill. **ALR**
Bodenheimer, Ernst, '43.1212 Eutaw pl., Baltimore 17, Md. **OP**
②**Boeckmann, Egil, '18**
Lowry Medical bldg., St. Paul 2, Minn. **OALR**
Boehs, Charles J., '37
Medical Arts bldg., San Antonio 5, Texas **ALR**
Boemer, L. C., '30,
3720 Washington blvd., St. Louis 8, Mo. **ALR**
Bogart, Donald Weeks, '40
20 East 53rd st., New York 22, N. Y. **OP**
Boggs, Frank Clinton, '38.....Mills bldg., Topeka, Kan. **OP**
Boice, Ralph E., '35.....316 Michigan, Toledo 2, Ohio **OP**
Boies, Lawrence R., '36
Medical Arts bldg., Minneapolis 2, Minn. **ALR**
①**Boiler, William F.**, '12, Major (MC),
206 Dey bldg., Iowa City, Iowa **OALR**
Boland, Wm. T., '41....378 W. Church st., Elmira, N. Y. **OP**
Boles, Wm. M., '41,
4132 St. Charles Ave., New Orleans 15, La. **OP**
Bolman, Harold Robert, '38
6½ S. Main, Monroeville, Ohio **OP**
Bolotow, Nathan A., '29.126 Waterman, Providence 6, R. I. **ALR**
Bonaccolto, Girolamo, '37
123 East 61st st., New York 21, N. Y. **OP**
Bond, Floyd M., '41...625 Broadway, San Diego 1, Calif. **OP**
②**Bone, Herman D.**, '18.....19 Pleasant, Gardner, Mass. **OALR**
Bonham, William Lawrence, '39
Medical Arts bldg., Oklahoma City 2, Okla. **ALR**
Bonner, Wm. F., '26, Major (M.C.).... Ft. Howard, Md. **OALR**
Bonner, William Richard, '42
3 W. White st., Summit Hill, Pa. **OP**
②**Bordley, James, Jr.**, '18,
2630 Guilford av., Baltimore 18, Md. **OALR**
Borgeson, E. J., '30
Medical Arts bldg., Minneapolis 2, Minn. **OP**
Borley, William E., '39, Capt (M.C.), USNR,
U. S. Naval Hospital, San Diego, Cal. **OP**
Bornstein, Max, '42, Major (MC),
Fletcher Gen. Hosp., Cambridge, Ohio **ALR**
Boss, Eugene George, '33..1537 Main, Springfield 3, Mass. **OALR**
Bostwick, D. S., '34.....106 Linwood av., Ardmore, Pa. **ALR**
Boswell, Robert Echo, '41..Fidelity bldg., Dayton 2, Ohio **ALR**
Bothman, Louis, '30..30 N. Michigan av., Chicago 2, Ill. **OP**
②**Boucher, R. B., '19**
Medical-Dental bldg., Vancouver, B. C., Can. **OALR**
Bourne, Malcolm G., '37...110 W. 3rd, Jamestown, N. Y. **OP**
②**Bouvy, Harry M.**, '20
800 Pittock blk., 10th and Washington, Portland, Ore. **OALR**
Bouvy, L. B., '27.....Foley bldg., La Grande, Ore. **OALR**
Bower, Richard L., '43.1103 Grand av., Kansas City 6, Mo. **OALR**
Bowers, Wesley C., '36...17 E. 61st, New York 21, N. Y. **ALR**
①**Boyce, G. H.**, '12
1st Nat'l Bank bldg., Iron Mountain, Mich. **OALR**
Boyce, Wm. A., '31.Roosevelt bldg., Los Angeles 14, Calif. **OP**
Boyd, Charles Wilson, '40, Major (M.C.),
Address Unknown. **OP**
Boyd, Greydon G., '39, Comdr. (MC), USNR,
307 East 44th st., New York, N. Y. **ALR**
Boyd, Harold M. E., '44, Capt. (MC),
Borden General Hospital, Chickasha, Okla. **ALR**
Boyden, Guy Lee, '39.1735 N. Wheeler, Portland 12, Ore. **ALR**
Boyes, T. L., '32....654 Madison av., New York 21, N. Y. **OP**
Bozer, Herrmann E., '23
468 Delaware av., Buffalo 2, N. Y. **ALR**
Bradford, George Edwin, '41
Nissen bldg., Winston-Salem, N. C. **ALR**
Bradish, Robert F., '42, Col. (M.C.).....Address Unknown **OP**
Bradley, Jeter C., '34
900 17th st., N.W., Washington 6, D. C. **ALR**

Bradley, John W., '37, Major (MC),
2212 Wood av., Colorado Springs, Colo. **ALR**
Brady, Charles Henry, '43..205 Ilgenfritz, Sedalia, Mo. **ALR**
Braley, A. E., '39, Comdr. (MC), USNR,
80 Park st., Tenafly, N. J. **OP**
Brandenburg, Kenneth C., '37
110 Pine av., Long Beach 2, Calif. **OALR**
Brandenburg, Nora B., '36
720 N. Michigan av., Chicago 11, Ill. **ALR**
Brandfield, Ira Irvin, '40, Capt. (M.C.)
305 W. 2nd St., Frederick, Md. **ALR**
Brandon, James R., '44,
800 First Nat'l Bank bldg., Canton, Ohio **ALR**
Brandwan, Samuel R., '37, Capt. (M.C.),
Address Unknown. **OP**
Branigan, C. Hugh, '33...17 Kraft av., Bronxville, N. Y. **OP**
Brannin, Daniel, '36...Medical Arts bldg., Dallas 1, Texas OP
Braswell, James C., '22.Medical Arts bldg., Tulsa 3, Okla. OALR
②Braunlin, Wm. H., '20
Marion Nat'l Bank bldg., Marion, Ind. **OALR**
①**Brawley, F. E.**, '07...30 N. Michigan av., Chicago 2, Ill. **OP**
Brawner, Leon E., '29..Medical Arts bldg., Atlanta 3, Ga. **ALR**
Bredlau, Ernest A., '29..2753 W. North, Chicago 47, Ill. **ALR**
Breeding, Earl G., '32
1801 Eye st. N.W., Washington 6, D. C. **ALR**
②Brehmer, Harrison L., '20
First Nat'l Bank bldg., Albuquerque, N. M. **OALR**
Breisacher, Carl F., '44
432 Medical Arts Bldg., Charleston 1, W. Va. **OP**
Breitstein, M. Lewis, '37
1213 Eutaw pl., Baltimore 17, Md. **ALR**
Bressler, J. L., '34...Medical Arts bldg., Houston 2, Texas **OP**
Breuning, Paul H., '32...133 E. 58th, New York 22, N. Y. **ALR**
②Brewer, John D., '20
Baird Brewer Gen. Hosp., Dyersburg, Tenn. **OALR**
Brewster, H. F., '32.913 Richards bldg., New Orleans, La. **ALR**
Briant, Thomas E., '29...28 E. Main, Welland, Ont., Can. **ALR**
②**Bribach, Eugene J.**, '19
Professional bldg., Atchison, Kan. **OALR**
Bricker, Sacks, '31.1101 W. Wyoming, Philadelphia 40, Pa. ALR
④**Brickley, Daniel W.**, '21
Uhler-Phillips bldg., Marion, Ohio **OALR**
Brickley, Daniel W, Jr., '38, Capt. (MC),
Borden General Hospital, Chickasha, Okla. **ALR**
Bridgett, Frank Aloysius, '42
3332 Chestnut st., Philadelphia 4, Pa. **ALR**
Briggs, Henry Harrison, Jr., '41, Lt. Col. (MC),
20 Buena Vista rd., Asheville, N. C. **OP**
Brighton, George R., '36
580 Park av., New York 21, N. Y. **ALR**
Briglia, Frank J., '36..819 Wharton, Philadelphia 47, Pa. **ALR**
Brindley, Benjamin, '40,
1013 Tumalo Trail, Madison 5, Wis. **OP**
Brinkerhoff, David E., '39..Grunaw Clinic, Phoenix, Ariz. **ALR**
Bristow, Walter J., '35
1517 Hampton, Columbia 29, S. C. **OALR**
Broadwell, Stuart, Jr., '37...103½ N. 5th, Springfield, Ill. **ALR**
Brobeck, Von Haller, '32
Ferguson bldg., Colorado Springs, Colo. **OP**
Brodnitz, Friedrich S., '44,
667 Madison av., New York 21, N. Y. **ALR**
①**Brodrick, Frank W.**, '11.....302 First av., Sterling, Ill. **OALR**
Brook, Jeffrey J., '34
231 W. Wisconsin av., Milwaukee 3, Wis. **ALR**
Brooks, Clyde M., '45,
105 S. University ave., Carbondale, Ill. **ALR**
①**Brooks, E. H.**, '15.....Zuelke bldg., Appleton, Wis. **OALR**
②**Brooks, Earl B.**, '19....128 N. 13th st., Lincoln 8, Nebr. **OALR**
Brooks, Jack E., '43, Lt. (MC),
c/o P. O. Box 1539, Santa Fe, N. Mex. **ALR**
Brooks, Morris J., '34...455 Ocean av., Brooklyn 26, N. Y. **ALR**
Brooks, Richmond C. A., '39
1150 Connecticut av., Washington 6, D. C. **ALR**
Broones, Otto, '36.....302 W. 87th, New York 24, N. Y. **ALR**
Brown, Albert L., '26.....Carew Tower, Cincinnati 2, Ohio **OP**
Brown, Andrew George, '42.717 DuPont bldg., Miami, Fla. **OP**
Brown, Audrey O., '27.5057 Woodward av., Detroit 2, Mich. **OALR**
Brown, Charles Lafayette, '38
713-15 Richards bldg., New Orleans 12, La. **ALR**
Brown, Charles Wm., '27
Bank of America bldg., San Diego 1, Calif. **ALR**
Brown, C. J., '34, Captain (M.C.), U.S.N.,
Naval Hospital, Jacksonville, Fla. **ALR**
①**Brown, Clayton M.**, '12
510 Delaware av., Buffalo 2, N. Y. **ALR**
Brown, Clyde O., '28
3720 Washington blvd., St. Louis 8, Mo. **ALR**
Brown, David Edward, '41
520 Hume-Mansur,-Indianapolis 4, Ind. **ALR**
Brown, Earl Henderson, '39...130 S. Scott, Tucson, Ariz. **ALR**
Brown, Harold W., '44..15 Park av., New York 16, N. Y. **OP**
Brown, Henry A., '43.937 Sixth av., S.E., Rochester, Minn. **ALR**
①**Brown, J. M.**, '11...1136 W. 6th, Los Angeles 14, Calif. **ALR**
②Brown, John C., '20, Medical Arts bldg.,
St. Paul 2, Minn. **OALR**
①Brown, John E., '01.135 Preston rd., Columbus 9, Ohio **OALR**
Brown, Lester A., '39, Capt. (MC), 0-514562
229th Gen. Hos., APO 713, c/o PM, San Francisco, Cal. **ALR**
③Brown, Mortimer G., '21
State Tower bldg., Syracuse 2, N. Y. **ALR**
①**Brown, W. Harold**, '12
925 W. Georgia st., Vancouver, B. C., Can. **OALR**
Brown, Wilbur Max, '43, Lt. Col. (MC),
Regional Hospital, Camp Swift, Tex. **OP**
Brownell, Durwin H., '40,
3520 Third av., San Diego 3, Calif. **ALR**
Brownell, Morton E., '28.106 W. Douglas, Wichita 2, Kan. **OP**
Browning, Andrew J., '35....Mayer bldg., Portland 5, Ore. **OP**
Browning, Birt Lee, '35.....208 Grand, Newburgh, N. Y. ALR
Brownsberger, Sidney B., '38
727 W. 7th st., Los Angeles 14, Calif. **OP**
Bruce, G. M., '30, Capt. (MC), USNR
635 W. 165th st., New York 32, N. Y. **OP**
①**Bruder, Joseph**, '08....57 W. 57th, New York 19, N. Y. **OALR**
Brumbaugh, John D., '34,
75 North Wheaton Road, Akron 13, Ohio **OALR**
Brumm, Seth A., '20
Medical Arts bldg.,Philadelphia 3, Pa. **OALR**
Bruner, Abram B., '23..Guardian bldg., Cleveland 14, Ohio OP
Bruner, Claude R., '41
Exchange Nat'l Bank bldg., Columbia, Mo. **OLAR**
①**Bruner, Wm. E.**, '05..Guardian bldg., Cleveland 14, Ohio **OP**
Brunk, Clifford F., '39
7815 E. Jefferson av., Detroit 14, Mich. **ALR**
Brunner, George Harmon, '40
150 Magnolia Drive, San Antonio, Texas **OP**
③**Brunner, Hans**, '35.307 N. Michigan av., Chicago 1, Ill. **ALR**
Bruno, Joseph M. L., '35...31 Jefferson, Brooklyn 6, N. Y. **OP**
Brusegard, James F., '33.....414 Main, Red Wing, Minn. **OP**
①**Brust, H. O.**, '13..820 S. Crouse av., Syracuse 1, N. Y. **ALR**
Bryan, James H., '43, Lt. (MC),
Cushing General Hospital, Framingham, Mass. **OP**

Bryan, James L., '28
Bennie-Dillon bldg., Nashville 3, Tenn. OALR
Bryan, William T. K., '42
3720 Washington blvd., St. Louis 8, Mo. ALR
Bryant, Ben L., '31, Comdr. (MC), USNR
Address Unknown ALR
Bryant, Frank L., '37, Major (M.C.), 0237676
102 Plymouth, Oak Ridge, Tenn. ALR
Buchanan, Norman D., '25
129 Murray, Peterborough, Ont., Can. OALR
Buchbinder, Murray W., '43, Major (M.C.)
39 Whithall St., New York 4, N. Y. ALR
Bucher, Walter M., '34..4187 Pearl rd., Cleveland 9, Ohio ALR
Buck, Clair A., '31.....191 Glen st., Glen Falls, N.Y. ALR
Buckingham, Tracy W., '31
405 Broadway, Bismarck, N. D. ALR
Buckman, Lewis T., '32..83 S. Franklin, Wilkes-Barre, Pa. OALR
Buckman, Samuel T., '40.70 S. Franklin, Wilkes-Barre, Pa. OALR
Budetti, Joseph A., '43, Capt. (M.C.),
Oliver General Hospital, Augusta, Ga. ALR
Buffington, Wiley R., '35
Hibernia Bank bldg., New Orleans 12, La. OP
Buffum, Edward S., '36....40 W. North, Buffalo 2, N. Y. ALR
Bullard, Carleton Wm., '32...120 Genesee, Auburn, N. Y. ALR
Bullis, John A. E., '39, Lt. (MC), USS Relief
c/o Fleet Post Office, San Francisco, Calif. OALR
Bullwinkel, H. Griffin, '31, Capt. (MC), USNR
Glenwood Gardens, Yonkers 2, N. Y. ALR
Bulson, Eugene L., '28..347 W. Berry, Ft. Wayne 2, Ind. OALR
Bunker, Paul G., '37.....Newberry bldg., Aberdeen, S. D. ALR
Bunnell, Chester William, '35, Capt. (M.C.),
124 Arrowood Lane, San Mateo, Calif. ALR
Buonaguro, Michael J., '31
589 Lorimer, Brooklyn 11, N. Y. OP
Burch, Edward P., '39, Col. (M.C.), O'Reilly General
Hospital, Springfield, Mo. OP
①Burch, Frank E., '07..754 Linwood pl., St. Paul 5, Minn. OP
②Burchell, Edgar B., '44, New York Eye and
Ear Infirmary, 2nd av., cor. 13th, New York 3, N.Y.
Burchfield, George W., '36....309 Court, Maryville, Tenn. ALR
Burdick, Austin F., '25
P. O. Drawer 1378, Lansing 4, Mich. OALR
Burgess, John L., '40, Lt. Comdr., (MC),
2600 Austin av., Waco, Tex. ALR
Burgess, Taylor S., '39.....Address Unknown ALR
Burgman, James Everette, '38
8 W. Main, Springfield, Ohio ALR
Burian, Hermann M., '38
520 Commonwealth av., Boston 15, Mass. OP
Burke, B. Russell, '35
1996 Ponce de Leon av., N.E., Atlanta 3, Ga. ALR
Burke, John R., '27.....207 Elm, Holyoke, Mass. OALR
①Burke, T. A., '06.....Rose bldg., Cleveland 15, Ohio OALR
Burman, Herman J., '35
1235 Grand Concourse, New York 52, N. Y. ALR
Burnham, Howard H., '37
Medical Arts bldg., Toronto 5, Can. ALR
②Burns, S. S., '19.Missouri Theatre bldg., St. Louis 3, Mo. ALR
Burritt, N. W., '30....30 Beechwood road, Summit, N. J. ALR
Burston, Herschel, '43,
1917 Wilshire blvd., Los Angeles 5, Calif. ALR
Burtoff, Samuel, '44, Capt. (MC),
4410 16th St., N. W., Washington 11, D. C. ALR
Burton, Edwin W., '37.307 E. Market, Charlottesville, Va. OP
Bushman, L. B., '27
City National Bank bldg., Omaha 2, Nebr. OALR
Butler, Edmund John, '42, 25 Garden st.,
Cambridge 38, Mass. ALR
Butler, Harry, '37,.....77 Broadway, Bangor, Maine ALR
①Butt, Miriam M., '08,
333 Seymore st., Philadelphia 44, Pa. OP
②Buvinger, Charles W., '21
50 Washington, East Orange, N. J. OALR
Buzzard, Josiah F., '31..1110 Thirteenth av., Altoona, Pa. OALR
Byrne, Harry Vincent, '38.....301 Essex, Lawrence, Mass. OP
Byrne, J Arthur, '41.....16 Elm, Morristown, N. J. ALR
①Byrnes, Harry F., '10..67 Chestnut, Springfield 5, Mass. OALR
Byrnes, Victor A., '43, Col. (M.C.),
278 West Wildwood Drive, San Antonio, Texas OP

C

Cabot, Clyde M., '38, Major (MC), 0-552886
5629 - 12th av. S., Minneapolis, Minn. ALR
Cady, D. W., '30....65 N. Madison av., Pasadena 1, Calif. OP
Cady, F. J., '32.....402 S. Jefferson av., Saginaw, Mich. OALR
Cahill, James F., '37.....428 S. Salina, Syracuse 2, N. Y. OP
Calcote, Royal J., '36
541 Donaghey bldg., Little Rock, Ark. OP
①Caldwell, Robert, '12
New Donaghey bldg., Little Rock, Ark. OALR
①Calhoun, F. Phinizy, '08
478 Peachtree st. N.E., Atlanta 3, Ga. OP
Callahan, Alston, '38, Capt. (MC),
Northingham General Hospital, Tuscaloosa, Ala. OP
Calvert, Raymond R., '36...314 N. 6th st., Lafayette, Ind. OP
Cammisa, James J. Vincent, '43, Comdr. (MC), USN,
44 Leamington rd., Brighton 35, Mass. OALR
①Camp, W. E., '19
Medical Arts bldg., Minneapolis 2, Minn. OALR
Campbell, A. A., '30.....86 Bloor st. W., Toronto, Can. ALR
②Campbell, C. H., '18.2514½ Thirteenth, Columbus, Nebr. OALR
②Campbell, Duncan A., '19
David Whitney bldg., Detroit 26, Mich. OALR
Campbell, Edward H., '38
Spruce St. Med. bldg., 19th & Spruce, Philadelphia, Pa. ALR
Campbell, Glenn S., '37, Capt. (M.C.), U. S. Naval Med.
Supply Depot, Pearl and Sands sts., Brooklyn, N. Y. ALR
Campbell, Mac D., '27, Capt. (M.C.),
Station Hospital, A.A.F.S.A.T., Orlando, Fla. OALR
Campbell, Paul A., '39
Suite 314, 700 N. Michigan av., Chicago, Ill. ALR
Campbell, Sherburne, '36, 270 Center St., Wallingford, Conn. OP
Campbell, William, '39.144 S. Harrison, E. Orange, N. J. ALR
Campbell, Wm. E., Jr., '36
Medical Arts bldg., Atlanta 3, Ga. OP
Canfield, Norton, '33, Col. (M.C.),
789 Howard av., New Haven 4, Conn. ALR
Cannon, Harold J., '43
536 W. Wisconsin av., Milwaukee 3, Wis. ALR
Capeles, Thomas Francis, '42
191 Merrimack St., Haverhill, Mass. OALR
Cardwell, Edgar P., '29.....965 Broad st., Newark, N. J. ALR
Carelli, Paul Vincent, '41
3626 W. Chicago av., Chicago 51, Ill. OP

Carl, Evan Elsworth, '40
606 W. Wisconsin av., Milwaukee 3, Wis. OP
Carmody, Raymond F., '37.....504 Broadway, Gary, Ind. OP
①Carmody, T. E., '04
Metropolitan bldg., Denver 2, Colo. ALR-PI S
Caron, Armand L., '39....36 Pleasant, Worcester 8, Mass. ALR
Carpenter, Chapin, '30..1930 Chestnut, Philadelphia 3, Pa. OP
Carrasquillo, Honorio Fernando, '41
P. O. Box 128, Utuado, Puerto Rico OP
Carroll, Frank D., '37.635 W. 165th, New York, 32, N. Y. OP
Also: Blind Brook Lodge, Rye, N. Y.
Carroll, Walter J. E., '37..5 Chestnut, Arlington 74, Mass. ALR
Carruth, Howard E., '28
Medical Arts bldg., Portland 5, Ore. OALR
②Carson, W. E., '17....Jenkins Arcade, Pittsburgh 22, Pa. OP
Carter, Albert A., '37.....419 Boylston, Boston 16, Mass. OP
Carter, E. D., '30.....Central bldg., Wichita 2, Kan. ALR
Carter, John M., '29.David Whitney bldg., Detroit 26, Mich. ALR
Carter, Leland F., 37
David Whitney bldg., Detroit 26, Mich. OP
①Carter, W. W., '08.....6 Chestnut av., Bronxville, N. Y. ALR
Caruthers, Samuel B., '37..Grenada Clinic, Grenada, Miss. OALR
①Cary, E. H., '12.....Medical Arts bldg., Dallas 1, Texas OALR
②Cary, G. C., '18.....Canon Block, Grand Junction, Colo. OALR
Case, Paul Henry, '39.....15 E. Monroe, Phoenix, Ariz. OP
Cassady, J. Vernal, '28
527 Sherland bldg., South Bend 9, Ind. OALR
Cassidy, Waldron A., '31
Medical Arts bldg., Omaha 2, Nebr. ALR
Casten, Virgil G., '32, Capt. (MC), USNR,
1038 Centre, Newton Centre 59, Mass. OP
Castroviejo, Ramon, '31
635 W. 165th, New York 32, N. Y. OP-PI S
Cave, Linus S., '29...State Tower bldg., Syracuse 2, N. Y. ALR
Cawthorne, Harold Jesse, '41
239 Pipestone, Benton Harbor, Mich. ALR
Cecha, Albin H., '35, c/o Mrs. Nancy Cecha,
4437 Woolworth av., Omaha 5, Nebr. OP
Cetner, John A., '43.....365 State St., Albany, N. Y. OP
Chace, Robert R., '44,
635 W. 165th, New York 32, N. Y. OP
②Chadwick, Ira B., '20..717½ Walnut, Coffeyville, Kan. OALR
Chaffers, Wm. H., '31.....190 Bates, Lewiston, Maine ALR
Chainski, Edward L., '32.....130 N. Wells, Chicago 6, Ill. ALR
Chamberlain, Webb P., '31
7405 Detroit av., Cleveland 2, Ohio OP
Chamberlain, Webb P. Jr., '44, Major (MC),
7405 Detroit av., Cleveland, Ohio OP
Chamlin, Max, '44,
1840 Grand Concourse, New York, N. Y. OP
Champion, Albert N., '36
Medical Arts bldg., San Antonio 5, Texas ALR
Chandler, Arthur C., '42, Major (MC),
1562 Virginia st. E., Charleston 11, W. Va. OP
Chandler, G. E., '30..502 Huntington bldg., Miami 32, Fla. ALR
Chandler, Paul Austin, '38
5 Bay State Road, Boston 15, Mass. OP
Chapman, E. J., '43...331 Haywood bldg., Asheville, N. C. ALR
Chapman, Katharine H., '36
304 Burns bldg., Colorado Springs, Colo. OP
Chapman, S. Jefferson, '26
Burns bldg., Colorado Springs, Colo. ALR
①Chapman, Vernon A., '15
435 N. Palm Canyon drive, Palm Springs, Calif. OALR
Charles, Joseph W., '22...Humboldt bldg., St. Louis 3, Mo. OP
①Charlton, C. Coulter, '16
124 S. Illinois av., Atlantic City, N. J. ALR
Chase, Carl Clarence, '39....121 Main, Middletown, Conn. OP
②Chase, E. Frank, '18.....Cobb bldg., Seattle 1, Wash. OALR
Chase, S. B., '25.....Carver bldg., Ft. Dodge, Iowa OALR
Chase, W. D., '24.....230 E. Broad, Bethlehem, Pa. ALR
Cheek, Carey, '38.....Medical Arts bldg., Springfield, Mo. OP
①Chenery, W. E., 377 Commonwealth av., Boston 15, Mass. ALR
②Cheney, James W., '20..Schweiter bldg., Wichita 2, Kan. OALR
Cheney, Ralph E., '36.....United bldg., Salina, Kans. OP
Chenoweth, Charlie Everette, '42
Forester's bldg., Mason City, Iowa ALR
Childers, Robert J., '29.....604 Park av., Plainfield, N. J. ALR
①Childs, H. A., '15....1016 W. Adams, Creston, Iowa OALR
Chipman, L. DeV., '25...42 Coburg, St. John, N. B., Can. OALR
Chisholm, Julian F., Jr., '36,
20 W. Cedar, c/o Mrs. Bunting, Boston 8, Mass. OP
Christensen, Eugene L., '44,
727 W. 7th, Los Angeles 14, Calif. OP
Christoph, Carl H., '28.30 N. Michigan av., Chicago 2, Ill. OALR
Cinelli, Albert A., '36..1021 Park av., New York 28, N. Y. ALR
Clapp, C. A., '43.....513 N. Charles, Baltimore 1, Md. OP
Clark, Cecil P., '31.922 Hume-Mansur, Indianapolis 4, Ind. OP
①Clark, H. S., '16...2615 Park Ave., Minneapolis 7, Minn. OALR
Clark, Howard Elton, '39, 576 Hartnell st., Monterey, Calif. OALR
②Clark, I. G., '20.....188 E. State, Columbus 15, Ohio OALR
①Clark, J. Sheldon, '14...State Bank bldg., Freeport, Ill. OALR
Clark, James W., '37, Major (M.C.) 0-485108
2250 W. 91st St., Chicago 20, Ill. OP
①Clark, L. H., '15..337 Monroe av., Rochester 7, N. Y. OALR
Clark, Willard C., '43, Lt. Comdr. (M.C.) USNR,
333 Rockwood Ave., Dayton, Ohio OP
Clark, William B., '34
American Bank bldg., New Orleans 12, La. OP
Clarke, Clement C., '39 Maj. (M.C.),
369th Stat. Hosp., APO 244, c/o PM, San Francisco, Cal. OP
Clarke, George L., '38...910 Chalmers, Detroit 15, Mich. ALR
Clarke, Samuel Tracy, '41, Medical Dental Bldg., Reno, Nev. OP
②Clay, Grady E., '17....Medical Arts bldg., Atlanta 3, Ga. OP
Clayton, Milton Burns, '42
Southern R. R. Office bldg., Washington 13, D. C. ALR
Cleary, James A., '40, Major (MC),
804 Boston bldg., Salt Lake City, Utah ALR
Cleff, Oscar, '26.....55 E. Washington, Chicago 2, Ill. OALR
②Clement, C. C., '18...30 N. Michigan av., Chicago 2, Ill. OALR
Clement, L. O., '30.....Guardian bldg., Salem, Ore. OALR
Clements, Frank Hartman, '44,
806 Medical Arts bldg., Birmingham, Ala. OP
Clerf, Louis H., '23.....1530 Locust, Philadelphia 2, Pa. ALR
Clifford, T. P., '27.David Whitney bldg., Detroit 26, Mich. OALR
Cline, Samuel, '32.....416 Marlborough, Boston 15, Mass. ALR
①Clothier, J. V., '06.....Kane bldg., Pocatello, Idaho OALR
Clothier, William L., '43
407-11 Kane bldg., Pocatello, Idaho OP
Coachman, Edwin H., '39
Manhattan bldg., Muskogee, Okla. ALR
Coakley, Leo P., '41...Medical Arts bldg., Omaha 2, Nebr. ALR
②Coates, George M., '21....1721 Pine, Philadelphia 3, Pa. ALR
①Cobb, Edwin, '12, 1680 N. Vine St., Hollywood 28, Calif. OALR
Cody, Claude C., Jr., '28
1304 Walker av., Houston 2, Texas ALR
Cogan, David G., '39.....243 Charles, Boston, Mass. OP
Cohen, Bernard M., '38
25 E. Washington st., Chicago 2, Ill. ALR

Cohen, Herman B., '27...255 S. 17th, Philadelphia 3, Pa. **ALR**
Cohen, Jerome H., '42, Capt. (M.C.),
Northington Gen. Hosp., Tuscaloosa, Ala. **OP**
Cohen, Louis B., '36....1320 Arrott, Philadelphia 24, Pa. **OP**
①**Cohen, Martin,** '10.....29 E. 64th, New York 21, N. Y. **OP**
②**Cohen, Samuel,** '21,
Spruce St. Medical bldg., Philadelphia 3, Pa. **ALR-PLS**
Cohoe, Don A., '30.13535 Woodward av., Detroit 3, Mich. **ALR**
Cole, Nathan B., '35, Lt. Col. (M.C.),
104 Market, Perth Amboy, N. J. **OALR**
Coleman, Benjamin, '41,
36-40 Bowne, Flushing, L. I., N. Y. **ALR**
Coleman, Joseph A., '40, Capt. (MC) 0-333256
Rm. 1401, 200 Madison av., New York 16, N. Y. **ALR**
Coleman, Lester Laudy, '41
162 E. 80th, New York 21, N. Y. **ALR**
Collins, Braswell E., '42, 701 Elizabeth St., Waycross, Ga. **ALR**
①**Collins, E. W.,** '10.....1578 Humboldt, Denver 6, Colo. **ALR**
①**Collins, J. D.,** '14.....187 Main, Northampton, Mass. **ALR**
Collins, James T., '40...Republic bldg., Cleveland 15, Ohio **ALR**
Colson, Z. William, '44....301 Essex St., Lawrence, Mass. **OP**
①**Colver, B. N.,** '13.436 S. Boyle av., Los Angeles 33, Calif. **ALR**
Combacker, Leon C., '35
101½ Lincoln av., Fergus Falls, Minn. **OP**
Combs, Arnold B., '42.....Northwest Clinic, Minot, N. D. **ALR**
Combs, Fielding, '42.Nissen bldg., Winston Salem 3, N. C. **ALR**
Conboy, John E., '35
2265 University av., New York 53, N.Y. **OP**
Cone, Alfred J., '29.....453 N. Taylor, St. Louis 8, Mo. **ALR**
Conley, John J., '43....425 E. 51st St., New York, N. Y. **ALR**
Connell, Evan Shelby, '40
Commerce bldg., Kansas City 6, Mo. **OP**
Connelly, Edgar J., '42.....Roshek bldg., Dubuqe, Iowa **ALR**
Connole, J. V., '32
Miners Nat'l Bank bldg., Wilkes-Barre, Pa. **OP**
Connor, Arthur B., '42.....Address Unknown. **ALR**
②**Connor, C. E.,** '20..Lowry Med. bldg., St. Paul 2, Minn. **ALR**
Connor, Joseph Joyce, '42....750 Main, Hartford 3, Conn. **OP**
Constans, George M., '29....Clinic bldg., Bismarck, N. D. **OP**
Constantine, Elizabeth Frederick, '43
340 E. 63rd, New York, 21, N. Y. **OP**
Constantine, K. W., '36..229 Barton av., Palm Beach, Fla. **OP**
Constantinople, P. S., '29
1801 Eye St. N.W., Washington 6, D. C. **ALR**
Conty, Anthony J., '37
318 Forty-eighth st., Union City, N. J. **ALR**
Conway, J. M., '30....Jenkins Arcade, Pittsburgh 22, Pa. **ALR**
Conway, William S., '35, Capt. (M.C.), 0-497350
27th Stat. Hosp., APO 1050, c/o PM, San Francisco, Cal. **OALR**
Cook, Raymond C., '36,
1005 Donaghey Bldg., Little Rock, Ark. **OP**
Cook, W. Albert, '24....Medical Arts bldg., Tulsa 3, Okla. **OALR**
Cooley, Carl C., '37, Medical Arts bldg., Norfolk 10, Va. **OALR**
Coombs, A. J., '32....30 N. Michigan av., Chicago 2, Ill. **ALR**
Coon, Eugene H., '35...131 Fulton av., Hempstead, N. Y. **ALR**
Cooper, Edmond L., '39
414 David Whitney bldg., Detroit 26, Mich. **OP**
Cooper, F. Maxey, '41
Medical Arts bldg., Oklahoma City 2, Okla. **OP**
Cooper, James H., '43, 316 Michigan st., Toledo 2, Ohio **OP**
Cooper, Kemp G., '39..Metropolitan bldg., Denver 2, Colo. **ALR**
Cooper, Roy C., '32..6929 Yorkshire rd., Pittsburgh 8, Pa. **ALR**
Cooperman, Harold O., '37, Suite 210, Beverly Professional
bldg., 9615 Brighton Way, Beverly Hills, Calif. **OP**
Copps, Lyman A., '23..Marshfield Clinic, Marshfield, Wis. **OALR**
Corboy, Phillip M., '36, 565 Young Bldg., Honolulu 9, T. H. **OP**
Cordes, Frederick C., '33..384 Post, San Francisco 8, Calif. **OP**
Cordray, David P., '41, Comdr. (MC) USNR.
1912 Spruce st., Philadelphia 3, Pa. **ALR**
Cornelius, C. E., '40, Comdr. (MC),
119 Summit av., Jenkintown, Pa. **ALR**
①**Corser, John B.,** '11...415 Mulberry st., Scranton 3, Pa. **OP**
Cortopassi, Andre J., '30,
324 S. Washington av., Saginaw, Mich. **ALR**
Cortopassi, Vital E., '41,
324 S. Washington ave., Saginaw, Mich. **ALR**
Corya, H. W., '30.....30 E. 40th, New York 16, N. Y. **ALR**
Cosgrove, Kingsley White, '40
115 E. Capitol, Little Rock, Ark. **OALR**
Costen, J. B., '25.Beaumont Medical bldg., St. Louis 8, Mo. **ALR**
Costenbader, Frank Duncan, '40
1150 Connecticut av., Washington 6, D. C. **OP**
Coston, Tullos O., '40,
Medical Arts bldg., Oklahoma City 2, Okla. **OP**
①**Cott, C. C.,** '15....333 Linwood av., Buffalo 9, N. Y. **ALR**
Cotten, Willis Frank, '43.....202 State, McComb, Miss. **ALR**
Cottle, Maurice H., '36.30 N. Michigan av., Chicago 2, Ill. **ALR**
Courtney, Robert H., '35
Professional bldg., Richmond 19, Va. **OP**
Cowan, Alfred, '28.....1930 Chestnut, Philadelphia 3, Pa. **OP**
Cowan, Clyde R., '33
69 Bay State road, Back Bay, Boston 15, Mass. **ALR**
Cowan, Thomas H., '41
1930 Chestnut St., Philadelphia 3, Pa. **OP**
Cowen, Jack P., '37, Comdr. (MC), USNR, U.S. Naval
Hosp., Navy 10, c/o FPO, San Francisco, Calif. **OP**
①**Cowper, H. W.,** '14.....543 Franklin, Buffalo 2, N. Y. **OP**
Cox, Charles L., '36
Pere Marquette bldg., New Orleans 12, La. **ALR**
Cox, John R., '44, Capt. (M.C.).....Mullica Hill, N. J. **OP**
Cox, Kelly, '39.....Medical Arts bldg., Dallas 1, Texas **OP**
Cox, Ronald A., '37
1779 Mass. av., N.W., Washington 6, D. C. **OP**
Cracovaner, Arthur J., '35
103 E. 78th st., New York 21, N. Y. **ALR**
Craddock, William Henry, '38, Lt. Col. (M.C.),
Patterson Field, Fairfield, Ohio **ALR**
②**Craft, Kenneth L.,** '20
1002 Hume-Mansur bldg., Indianapolis 4, Ind. **ALR**
Crage, Francis M., '35..25 E. Washington, Chicago 2, Ill. **OP**
Craig, Paul C., '33.....232 N. 5th, Reading, Pa. **OP**
Cramton, Edward A., '37....33 Main, St. Johnsbury, Vt. **OALR**
Crane, Cyril Vincent, '38
6810 S. Loomis blvd., Chicago 36, Ill. **OP**
Crane, W. R., '29
Room 1027, 727 W. 7th, Los Angeles 14, Calif. **ALR**
Cranston, Wm. J., Jr. '43, Major (MC)
Rhoads General Hospital, Utica 5, N. Y. **OP**
Crawford, H. E., '43..139 Kinoole St., Hilo, Hawaii, T. H. **OP**
Crawford, James H., '44, Capt. (MC),
c/o E. T. Schmidt, Buffalo, Minn. **OP**
Creasy, Raymond C., '37..67 E. 59th, New York 22, N. Y. **ALR**
Crebbin, Alexander R., '38
Maison Blanche bldg., New Orleans 16, La. **OP**
Cregar, John S., '39.....150 Harrison, East Orange, N. J. **OP**

①**Creighton, Wm. J.,** '10..37 S. 20th, Philadelphia 3, Pa. **OP**

Crespo, Jose E., '41.....28 W. 95th, New York 25, N. Y. **ALR**

Cress, William J., '34.....318 W. Market, Pottsville, Pa. **ALR**

Creveling, Earle LaMont, '42...P. O. Box. 2446, Reno, Nev. **ALR**

①**Crisp, William H.,** '13, Metropolitan bldg., Denver 2, Colo. **OP**

Criswell, Robert H., '37....Phoenix bldg., Bay City, Mich. **OP**

②**Crockett, R. L.,** '17.....112 Farrier av., Oneida, N. Y. **OP**

Croissant, Charles A., '31..390 Main, Worcester 8, Mass. **ALR**

Croll, Leo J., '39, Major (MC),
18065 Fairfield, Detroit, Mich. **OALR**

Croman, Joseph M., Jr., '24
115 Cass av., Mt. Clemens, Mich. **OALR**

①**Cross, A. E.,** '14.....390 Main, Worcester 8, Mass. **OP**

②**Cross, G. H.,** '19.....525 Welsh, Chester, Pa. **OP**

Crossen, Henry F., '39
David Whitney bldg., Detroit 26, Mich. **ALR**

①**Crossley, E. R.,** '11, 4144 Sheridan Rd., Chicago 13, Ill. **OALR**

Croushore, James E., '35
573 Fisher bldg., Detroit 2, Mich. **ALR**

Crume, John J., '31.....724 Polk, Amarillo, Texas **ALR**

Crumrine, Norman R., '28.....595 Third st., Beaver, Pa. **OALR**

Cruthirds, Archie Edward, '40
Professional bldg., Phoenix, Ariz. **ALR**

①**Culbertson, L. R.,** '98..Masonic Temple, Zanesville, Ohio **OALR**

Culler, Arthur M., '32
150 E. Broad st., Columbus 15, Ohio **OP**

①**Cullom, M. M.,** '10
Bennie-Dillon bldg., Nashville 3, Tenn. **OALR**

Culpepper, William S., '32, Col. (M.C.),
Station Hospital, Camp Stoneman, Calif. **ALR**

Cummings, Edward J., '37
1835 Eye St. N.W., Washington 6, D. C. **ALR**

Cummings, George O., '30...47 Deering, Portland 4, Maine **ALR**

Cunning, Daniel S., '28..121 E. 60th, New York 22, N. Y. **OALR**

Cunningham, Bernard P., '43 Major (M.C.),
Dibble General Hospital, Menlo Park, Calif. **ALR**

Cunningham, Henry Kelso, '42
Medical Arts bldg., Knoxville 1, Tenn. **ALR**

Cunningham, John C., '43, Capt. (M.C.),
Patterson Field, Fairfield, Ohio **OP**

②Curdy, R. J., '18....1102 Grand av., Kansas City 6, Mo. **OP**

Curran, Desmond, '37
1805 Federal Reserve bldg., Kansas City, Mo. **OP**

②Curran, E. J., '19
Federal Res. Bank bldg., Kansas City 6, Mo. **OP**

Curran, Kevin, '39
Federal Res. Bank bldg., Kansas City 6, Mo. **OP**

Currier, Wilber D., '44
65 N. Madison Ave., Pasadena, Calif. **ALR**

①Curry, Glendon E., '12
1204 Pitt Bank bldg., Pittsburgh 22, Pa. **OP**

Curtin, Eugene A., '23.....506 Spruce, Scranton 3, Pa. **OALR**

Cushman, Beulah, '24....25 E. Washington, Chicago 2, Ill. **OP**

Cusick, Paul L., '43, 1108 Stroh Bldg., Detroit 26, Mich. **OP**

Cutino, R.M., '30.....79 Pierrepont, Brooklyn 2, N. Y. **OP**

Cutler, Abraham Maurice, '41
750 Ocean av., Brooklyn 26, N. Y. **ALR**

①**Cutler, Franklin E.,** '12.....Wecoma, Ore. **ALR**

Cutler, Harold M., '42
640 S. Kingshighway, St. Louis 10, Mo. **ALR**

Cutler, Norman L., '38, Lt. Col. (M.C.),
Dibble General Hospital, Menlo Park, Calif. **OP**

D

Dahl, Elmer O., '33
Medical Arts bldg., Minneapolis 2, Minn. **ALR**

Dailey, Gilbert L., '27.....618 N. 3rd, Harrisburg, Pa. **OALR**

Daily, Louis, '26....Medical Arts bldg., Houston 2, Texas **OALR**

Daily, Ray K., '26...Medical Arts bldg., Houston 2, Texas **OALR**

Daisey, Willard O., '37
30 Park av., Rehobath Beach, Del. **ALR**

Daley, Jacob, '41.....104 E. 40th, New York 16, N. Y. **ALR**

Dalton, S. Eugene, '38, 101 S. Surrey Ave.,
Ventnor, Atlantic City, N. J. **ALR**

Daly, John F., '44....877 Queen Anne rd., Teaneck, N. J. **ALR**

Dame, L. R., '42.....9 Orchard st., Greenfield, Mass. **OP**

Damitz, John Cyril, '43
2nd National Bank Bldg., Akron, Ohio **OALR**

Daniel, Ruby K., '43...Medical Arts bldg., Dallas 1, Texas OP

Danielson, Ralph W., '34
Metropolitan bldg., Denver 2, Colo. **OP**

②Darmer, George A., '21....Terminal bldg., Aurora, Ill. **OALR**

Darrough, L. E., '32.....4105 Live Oak, Dallas, Texas **ALR**

Dart, M. O., '40....2701 S. Marion st., Englewood, Colo. **ALR**

Dattner, Herman B., '44, Major (MC), 0-466058
110th AAF BU, Sq. B., Mitchel Field, N. Y. **ALR**

Davidson, H. P., '24...30 N. Michigan av., Chicago 2, Ill. OP

Davidson, Morris, '29....17 Park av., New York 16, N. Y. **OP**

Davies, H. F., '30.1835 Eye st. N.W., Washington 6, D. C. ALR

Davies, Morgan C., '32...269 E. State, Columbus 15, Ohio OP

①**Davies, T. Alexander, '13.578 Sherbourne, Toronto, Can. OALR**

Davies, Windsor S., '36
1302 Stroh Bldg., 28 W. Adams Ave, Detroit, Mich. **OP**

Davis, Arthur Henry, '41.Medical Arts bldg., Tulsa 3, Okla. **ALR**

Davis, David, '34.1835 Eye st. N.W., Washington 6, D. C. ALR

Davis, Frederick Allison, '27
224 W. Washington av., Madison 3, Wis. **OP**

①Davis, George E., '15..14 E. 90th, New York 28, N. Y. **OALR**

Davis, Hugh P., '37, 135 E. 65th St., New York 21, N. Y. **ALR**

Davis, James Edward, '40.179 Allyn st., Hartford 3, Conn. **ALR**

Davis, John Calvin, Jr., '28..Aquila Court, Omaha 2, Nebr. **OALR**

Davis, Leo L., '42, 1509 Farrell Lane, Richland, Wash. **OP**

Davis, Oscar, '36, Capt. (M.C.) USN
U. S. Naval Hospital, Pensacola, Fla. **OALR**

②Davis, Ralph F., '20.Medical Arts bldg., Portland 5, Ore. **OALR**

Davis, T. Carroll, '31..3128 N. Broad, Philadelphia 32, Pa. **ALR**

Davis, Thomas W., '23
O'Hanlon bldg., Winston-Salem 3, N. C. **OALR**

Davis, Warren B., '34
135 S. 18th, Philadelphia 3, Pa. **ALR-PI S**

Davis, Wm. C., '30.....150 E. Broad, Columbus 15, Ohio **OP**

Davison, Francis W., '36....Geisinger Hosp., Danville, Pa. **ALR**

Day, Kenneth M., '30.121 University pl., Pittsburgh 13, Pa. **ALR**

②Dayton, G. O., '18.1401 S. Hope, Los Angeles 15, Calif. **OALR**

Deal, John F., '28.....522 E. Capitol av., Springfield, Ill. **OALR**

Dean, Alfred, '23
Medical Arts bldg., Grand Rapids 2, Mich. **OP**

①Dean, F. W., '03.....22 S. 6th, Council Bluffs, Iowa **OALR**

Dean, L. W., Jr., '38
3720 Washington blvd., St. Louis 8, Mo. **ALR**

②Dean, Walter, '17..300 Francis bldg., Louisville 2, Ky. **OALR**

Dearmin, Robert M., '31,
3440 No. Meridian St., Indianapolis, Ind. **ALR**

De Blois, Elizabeth, '39
247 Commonwealth av., Boston 15, Mass. **ALR**

②DeBoe, M. P., '20....Huntington bldg., Miami 32, Fla. **OALR**

DeBord, Bert, Jr., '44.....902 S. 7th st., Temple, Texas **ALR**

②Decker, J. C., '18.....Frances bldg., Sioux City 8, Iowa OALR
Decker, Phillip Harold, '42
25 W. Third st., Williamsport 5, Pa. ALR
Decker, Russell M., '38.65 N. Madison, Pasadena 1, Calif. ALR
Deems, Myers B., '43, Lt. Col. (M.C.),
1601 Leyden st., Denver, Colo. ALR
Deeton, William L., '38
13125 Shaker Square, Cleveland 20, Ohio ALR
②Defnet, William A., '20
28 Adams av. W., Detroit 26, Mich. ALR
③Deichler, L. Waller, '20
1930 Chestnut, Philadelphia 3, Pa. OALR
Deitchman, Louis S., '39, Major (M.C.),
ASF Regional Station Hosp., Oakland, Calif. ALR
Delaney, Adrian J., '41, Capt. (MC), USN,
Nat'l. Naval Medical Center, Bethesda, Md. ALR
Delaney, James H., '31.....138 W. 9th, Erie, Pa. OP
Delman, Abraham H., '39, Lt. Col. (M.C.)
Veterans Administration, 252 7th Ave., New York, N. Y. ALR
DeLozier, Leonard Cecil, '41,
Suite 1712, 30 N. Michigan av., Chicago 2, Ill. ALR
Delph, John F., '28..700 N. Michigan av., Chicago 11, Ill. ALR
Denison, Ward C., '31.....316 Broadway, Paterson, N. J. ALR
Denman, Francis E., '38
541 Lincoln road, Miami Beach, Fla. ALR
①Dennis, F. L., '06..2745 Barnson pl., San Diego 3, Calif. ALR
Denyes, Gerald Foster, '40...316 Michigan, Toledo 2, Ohio ALR
Depping, C. W., '30.....17 W. 54th, New York 19, N. Y. ALR
deRoetth, Andrew F., '44
508 Old Nat'l Bank Bldg., Spokane, Wash. OP
Dessoff, Joseph, '38
1726 Eye st. N.W., Washington 6, D. C. OP
De Stio, Daniel S., '39..Highland bldg., Pittsburgh 6, Pa. ALR
Deutsch, William, Jr., '42
309 Johnson bldg., Muncie, Ind. ALR
DeVoe, Arthur Gerard, 41, Major (M.C.),
Halloran General Hospital, Staten Island, N. Y. OP
De Vries, Harold G., '38.....36 E. 8th, Holland, Mich. ALR
Dewar, Murray M., '32
Medical Arts bldg., Grand Rapids 2, Mich. OP
②DeWeese, Clarence, '20
201 W. Second st., Lexington 15, Ky. OALR
①Dewey, C. H., '12, Lt. Col. (M.C.),
760 S. Oak Knoll av., Pasadena, Calif. OALR
DeWitt, Edward N., '28.881 Lafayette, Bridgeport 4, Conn. OP
DeWolf, Charles W., '38.....8 Porter st., Melrose, Mass. ALR
Dexter, Milton A., '30
827 Glenmont av., Los Angeles 24, Calif. ALR
Dezer, Charles N., Jr., '41....210 Main, Hackensack, N. J. ALR
Dickerson, Wm. E., '35, 802 Masonic Temple, Danville, Va. ALR
Dickey Clifford A., '44
450 Sutter St., San Francisco 8, Calif. OP
Dickinson, Wm. G., '36....State Tower, Syracuse 2, N. Y. OP
Dickson, J. Charles, '31
Medical Arts bldg., Houston 2, Texas ALR
Dickson, Robert L., '38...4803 Penn, Philadelphia 24, Pa. ALR
Diehl, James E., '44, 813 Wainwright Bldg., Norfolk, Va. ALR
Diess, Robert G., '42, Major (M.C.),
Oliver Gen. Hosp., Forest Hills, Augusta, Ga. OP
Dietl, Ernest L., '40, Major (M.C.), 0-333476,
Address Unknown. ALR
Dill, J. Lewis, '38..Henry Ford Hospital, Detroit 2, Mich. ALR
Dillemuth, Frederick Joseph, '41
404 E. 154th, New York 55, N. Y. ALR
Dillon, Elmo E., '38.....1952 Ridge rd., Homewood, Ill. OALR
Dimmitt, Frank W., '34.78 Waterman, Providence 6, R. I. OALR
Dimond, Waldo B., '33..701-710 Gay bldg, Madison, Wis. ALR
Dinan, Thomas Edward, '41
132 Union av., Framingham, Mass. ALR
Dineen, John B., '44...1537 Main st., Springfield 3, Mass. ALR
②Dintenfass, Henry, '21..1305 Spruce, Philadelphia 7, Pa. ALR
Diven, Wilbur Lester, '41...406½ Main, Bismarck, N. D. ALR
Dix, Harold C., '42...405 N. Charles st., Baltimore 1, Md. OP
Dixon, Fred W., '29.....Rose bldg., Cleveland 15, Ohio ALR
Dixon, O. Jason, '28.Professional bldg., Kansas City 6, Mo. ALR
①Dixon, W. E., '18.....1617 E. 4th, Santa Ana, Calif. OALR
Dlugasch, Louis, '29....110 E. 36th, New York 16, N. Y. ALR
Dobbs, O. R., '30, Comdr. (M.C.),
9927 Riverview Drive, St. Louis 15, Mo. ALR
①Dodd, Oscar, '03.....636 Church, Evanston, Ill. OP
Dodge, W. M. Jr., '34, Maj. (M.C.),
1207 Central National Bank, Battle Creek, Mich. OP
Doherty, Wm. B., '27....150 W. 55th, New York 19, N. Y. OP
Dolowitz, David A., '43
1152 Gilmer Drive, Salt Lake City 5, Utah ALR
Dolph, Chancey H., '44.....317 Main, Baytown, Texas ALR
Donahue, Hugh C., '39
520 Commonwealth av., Boston 15, Mass. OP
Donlon, John J., '43, 141 Hempstead Ave.,
Rockville Center, N. Y. ALR
Donnell, Herbert, '38....507 W. Main, Waxahachie, Texas ALR
Donnelly, Edward J., '38..1321 Spruce, Philadelphia 7, Pa. OP
②Donoher, William D., '17
635 S. Westlake av., Los Angeles 5, Calif. OALR
Donohoe, Edward C., '31..1447 Royal blvd., Glendale, Cal. ALR
Donovan, John E., '38.....265 W. 10th, Erie, Pa. ALR
Donovan, Richard J., '43...422 N. Main, Fall River, Mass. OALR
Doran, Frank, '40.....Metz bldg., Grand Rapids 2, Mich. ALR
Dorge, Richard I., '23
1111 Nicollet av., Minneapolis 2, Minn. OALR
Dougherty, Clifford L., '31.55 E. Washington, Chicago 2, Ill. ALR
Douglas, Edward M., '36
87-85—153rd, Jamaica 2, L. I., N. Y. OP
Douglas, Frederick A., '22
State Bank bldg., La Crosse, Wis. OALR
Doust, Alfred W., '44, Major (MC),
965 Lancaster av., Syracuse, N. Y. ALR
①Dow, Frank E., '14.....4 West st., Northampton, Mass. OP
Dow, Julian Neal, '31,
9730 Wilshire blvd., Beverly Hills, Calif. OP
Dowling, Harvey E., '32, F/L R.C.A.F.,
414 4th av. W., Calgary, Alberta, Canada OP
①Dowling, J. Ivimey, '14
116 Washington av., Albany 6, N. Y. OALR
Dowling, James Reginald, '40
508 Ohio Merchants bldg., Massillon, Ohio ALR
Downey, Harold R., '38, Lt. Comdr. (M.C.),
1740 M st., N.W., Washington 6, D. C. OP
Downing, Arthur H., '43, Capt. (M.C.)
O'Reilly General Hospital, Springfield, Mo. OP
Downing, James A., '36
Bankers Trust bldg., Des Moines 9, Iowa ALR
Drews, Leslie C., '43
516 Metropolitan bldg., St. Louis 3, Mo. OP
Driscoll, Frederick J., '33,
209 S. E. Second Ave., Ft. Lauderdale, Fla. ALR
Droegemueller, Wm. H., '39, 1845 11th Ave., Greeley, Colo. OP
Drooker, Joshua C., '40, 20 Charlesgate W., Boston, Mass. ALR

Druss, Joseph G., '36..1040 Park av., New York 28, N. Y. ALR
Dubins, Henry B., '43.....248 State, Albany 6, N. Y. OP
Dublin, George Joseph, '41
1930 Chestnut, Philadelphia 3, Pa. OP
Duboe, Sidney H., '42, 6326 M. Francisco, Chicago 45, Ill. ALR
Duehr, Peter A., '39
224 W. Washington av., Madison 3, Wis. OP
Duke, Roncie R., '31.....706 Franklin, Tampa 2, Fla. ALR
②Dulaney, Octavus, '17.....Brown bldg., Louisville 2, Ky. ALR
Dumas, Edward DeVan, '36
Medical Arts bldg., San Antonio 5, Texas ALR
Dunaway, Carl E. '35, 711 DuPont Bldg. Miami, Fla. ALR
Dunbar, John Charles, '40.Empire bldg., Pittsburgh 22, Pa. OP
Duncan, Perry E. '37 405 E. Capitol Ave. Springfield Ill. OP
Duncan, R. A., '29.....Amarillo bldg., Amarillo, Texas ALR
③Dundas-Grant, Sir James (Retired).....England
Dunlap, Henry A., '37
7815 E. Jefferson av., Detroit 14, Mich. OP
①Dutrow, H. V., '41.....426 Kramer Road, Dayton, Ohio OALR
Dunn, Austin G., '37
111½ Strongs av., Stevens Point, Wis. ALR
Dunnavan, Floyd Leighton, '42
Arts bldg., Vancouver, Wash. OP
Dunnington, John H., '24, Inst. of Ophthalmology,
Pres. Hos., 635 W. 165th, New York 32, N.Y. OP-PI-S
Dunphy, Edwin B., '31,
255 Woodland Rd. Chestnut Hill, Mass. OP
①Dun'ley, G. S., '13.....Box 47, Macomb, Ill. OALR
Durr, S. A., '27..Medico-Dental bldg., San Diego 1, Calif. OP
①Dutrow, H. V., '14.....426 Kramer Road, Dayton, Ohio OALR
Dvorak, Joseph E., '37.Davidson bldg., Sioux City 13, Iowa OP
Dwyer, James G., '36...375 Park av., New York 22, N. Y. ALR
Dyar, Edwin William '40,
5407 Kenwood av., Indianapolis 8, Ind. OP
Dyer, Benjamin G., '29
2903 Lovell st., Kalamazoo 27, Mich. ALR
②Dyer, C. P., '20...508 N. Grand blvd., St. Louis 3, Mo. OP
and Garelock bldg., Webster Groves, Mo.
Dykman, Augustus B., '37
833 S.W. 11th av., Portland 5, Ore. OP
Dysart, Ben Robnett, '41
65 N. Madison av., Pasadena 1, Calif. ALR

E

Eagle, Watt W., '37.....Duke Hospital, Durham, N. C. ALR
Eagleton, W. P., '30.....15 Lombardy, Newark 2, N. J. ALR
Earl, Harry D., '36
1501 LeGrande Terrace, San Pedro, Calif. ALR
Earnest, Clarence E., '31.....Thatcher bldg., Pueblo, Colo. ALR
①Easton, J. C., '04
First Nat'l Bank bldg., Springfield, Ohio OALR
Easton, Mahlon T., '39.....264 Beacon, Boston 16, Mass. OP
Ebeling, Wm. B., '30.....54 Greene av., Brooklyn 5, N. Y. OP
Eber, Carl Theo., '28, Carleton bldg., St. Louis 1, Mo. OP
Ebert, Reinhold O., '37.....64 Mt. Vernon, Oshkosh, Wis. OP
Edelman, Maurice I, '42, Lt. Comdr. (M.C.) USNR
USN Fleet Hospital 116, c/o FPO, San Francisco, Calif. ALR
Edgerton, Ambrose E., '31
450 Sutter, San Francisco 8, Calif. OP
Edmunds, Stanley L., '38, Lt. Comdr. (MC), USN
U. S. Naval Hospital, Sampson, N. Y. ALR
①Edwards, C. J., '13
First Nat'l Bank bldg., Vicksburg, Miss. OALR
Edwards, Gwilym Austin, '42
Home Guards bldg., Van Wert, Ohio ALR
Edwards, S. A., '35...Home Guards bldg., Van Wert, Ohio ALR
②Edwards, Slocomb R., '18.107 S. Fifth, El Centro, Calif. OALR
Edwards, Thomas J., '38
1237 Lowry bldg., St. Paul 2, Minn. OP
Egan, Burton W., '28,
602 S. E. 6th St., Ft. Lauderdale, Fla. OALR
Ehrenfeld, Edward, '44...185 Lexington av., Passaic, N. J. OP
Ehrlich, Max, '40, 721 N. Broad st., Elizabeth 3, N. J. ALR
Ehrmann, Evelina W., '42
327 S. La Grange Road, La Grange, Ill. OP
Eimer, C. E., '28.....462 N. Taylor av., St. Louis 8, Mo. ALR
Elfman, Louis Kenneth, '42
6330 Lebanon av., Philadelphia 31, Pa. ALR
Ellenberger, Carl, '40.14805 Detroit av., Lakewood 7, Ohio OP
②Elles, Norma B., '19
Niels Esperson bldg., Houston 2, Texas OALR
③①Ellett, E. C., '98...Exchange bldg., Memphis 3, Tenn. OP
Elliff, Edgar Alonzo, '41.....216 N. 3rd, Sterling, Colo. ALR
Elliot, Alfred J., '43
170 St. George st., Toronto, Ont., Canada OP
③Elliot, R. H., '13, Lt. Col., 54 Welbeck st.,
Cavendish sq. W., London, Eng.
Elliott, J. Norman, '38..Griesheim bldg., Bloomington, Ill. ALR
Elliott, Raymond E., '41,
2150 St. Paul st., Rochester 5, N.Y. ALR
Ellis, Bert E., '31
303 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
Ellis, C. Ward, '28.....1702 Sunnyside, Lansing, Mich. ALR
Ellis, Orwyn H., '40 Lt. (M.C.),
647 Warner av., Los Angeles 24, Calif. OP
Ellis, Van M., '44....1530 Locust st., Philadelphia 2, Pa. OP
Elz, Jule T., '37....3606 Gravois blvd., St. Louis 16, Mo. OP
Emenhiser, Lee K., '44
Medical Arts bldg., Oklahoma City, Okla. ALR
①Emerson, Linn, '06.....303 Park av., Orange, N. J. OALR
Emery, John R., '38...Medical Centre, White Plains, N. Y. ALR
Emswiler, Herbert D., '37, 370 E. Town, Columbus 15, Ohio ALR
England, Welch M., '36
1009 Market st., Parkersburg, W. Va. ALR
Engler, Clarence Wm., '33
2323 Prospect av., Cleveland 15, Ohio ALR
Enlows, Ella M. A., '34
2509 Castilla Place, Ft. Lauderdale, Fla. ALR
Epstein, Sidney S., '41
2021 Grand Concourse, New York 53, N. Y. OP
Equen, Murdock S., '31
144 Ponce de Leon av., N.E., Atlanta, Ga. ALR
Erich, John B., '44.....Mayo Clinic, Rochester, Minn. PLS
Ernsting, Harry Carl, '42..8 W. Main st., Springfield, Ohio OP
②Ersner, Matthew S., '20, 1915 Spruce, Philadelphia 3, Pa. ALR
Eschenbrenner, John W., Jr., '37
306 W. Broadway, Fort Worth 4, Texas ALR
Esterman, Benjamin, '37.983 Park av., New York 28, N. Y. OP
Eubank, Ambrose E., '28.Bryant bldg., Kansas City 6, Mo. OALR
Eubank-Jones, Miriam D., '39, 944 Maple av., Evanston, Ill. OP
Evans, John Dorritte, '41
899 Madison Ave., Memphis 3, Tenn. ALR
Evans, J. N., '25.....23 Schermerhorn, Brooklyn 2, N. Y. OP
Evans, Maurice G., '32, 416 Marlborough, Boston 15, Mass. ALR
Evans, Samuel D., '44
1502 Park bldg., 355 Fifth av., Pittsburgh 22, Pa. OP
Evans, S. S., '32
Physicians & Surgeons bldg., Memphis 3, Tenn. ALR
Evans, Wm. H., '34.....291 Park av., Youngstown, Ohio ALR

Evatt, Clay W., '40, Brooklyn Eye & Ear Hospital
29 Green Ave., Brooklyn 5, N.Y. **ALR**
Everett, A. Reginald, '39, 11 Wall st., New York 5, N. Y. **ALR**
Evers, Lorance Bixler, '41, Capt. (MC),
1102 East Broadway, Monmouth, Ill. **ALR**
①**Ewing, Fayette C., '99, (Retired)**
"Nosegay," Pineville, La.

F

Fabricant, Noah D., '36.185 N. Wabash av., Chicago 1, Ill. **ALR**
Fackler, C. L., '30.....Country Club rd., York, Pa. **OALR**
Faggart, George H., '43.18 W. Oglethorpe av., Savannah, Ga. **ALR**
Faier, H. I., '43
1930 Wilshire blvd., Suite 203, Los Angeles, Cal. **OP**
Faier, Samuel Z., '35.....120 So. 36th St., **Omaha, Nebr. OALR**
①**Fairbairn, John F., '12**.925 Delaware av., Buffalo 9, N. Y. **ALR**
Fairchild, Nora M., '22
939 S. Figueroa st., Los Angeles 15, Calif. **OP**
Fairfax, Kenneth T., '39.....423 Main st., Geneva, N. Y. **OP**
Fairing, John W., '24.....122 N. Main, **Greensburg, Pa. OALR**
Falkson, Kurt F., '42.225 W. 86th st., New York 24, N. Y. **ALR**
①**Fallows, Howard D.**, '16
Foresters bldg., Mason City, Iowa **OALR**
Falls, Harold Francis, '43...Uni. Hosp., **Ann Arbor, Mich. OP**
②**Farnsworth, M. A., '17**
Opera House Apt. bldg., La Junta, Colo. **OALR**
Farrell, James I., '35.....250 Genessee, Utica 2, N. Y. **OP**
①**Farrington, P. M., '04**....Colburn Hotel, Denver, Colo. **ALR**
Farrior, J. Brown, '42....Ochsner Clinic, New Orleans, La. **ALR**
Fast, Ralph B., '36..136 E. Michigan, Kalamazoo 4, Mich. **ALR**
①**Fawcett, Ivan, '13**....75 Twelfth st., Wheeling, W. Va. **OALR**
Fein, Harry, '40.....483 Beacon, Boston 15, Mass. **ALR**
Feldman, Irvin, '39
1722 Eye St., N.W., Washington, D.C. **ALR**
Feldman, Joseph, '40
668 Eastern Parkway, Brooklyn 13, N. Y. **ALR**
Fellows, M. Fording, '35
1209 Medical Arts bldg., Duluth, Minn. **OP**
①**Fenton, R. A.**, '21, 1020 S. W. Taylor, Portland 5, Ore. **OALR**
Ferguson, E. R., '35.....404 Inman st., Cleveland, Tenn. **ALR**
Ferguson, George Burton, '40
1110 West Main st., Durham, N. C. **ALR**
Fernandez, Luis J., '40, Box 2206, San Juan 10, Puerto Rico **OP**
Fernandez, Ricardo F., '39, 15 Ponce de Leon av.,
Box 2206, San Juan 10, Puerto Rico **OP**
Fernlund, G. B., '28
8620—115th, Richmond Hill, New York 18, N. Y. **ALR**
Ferris, Ralph G., '34.55 W. Maple av., **Birmingham, Mich. ALR**
Fewell, A. G., '31.....1924 Pine, Philadelphia 3, Pa. **OP**
Field, Homer Baker, '42, Capt. (M.C.) Disp. Base 3
A.P.O. 923, c/o P. M., San Francisco, Calif. **OP**
Figi, Frederick A., '27....Mayo Clinic, Rochester, Minn. **LR-PI S**
Filmer, George A., '41, 1331 S. Marion St., Denver 10, Colo. **OP**
Findlay, E. K., '30.....30 N. Michigan av., Chicago 2, Ill. **OP**
Fine, Abraham, '32...925 Ocean av., Brooklyn 26, N. Y. **OALR**
Fineberg, Maxwell, '30
607 N. Grand blvd., St. Louis 3, Mo. **ALR**
Fineberg, Nathan L., '38
475 Commonwealth av., Boston 15, Mass. **ALR**
Finegan, James F., '41, Lt. Comdr. (M.C.) USNR
U. S. Naval Hospital, Philadelphia 45, Pa. **OP**
Fink, Leo W., '39.Medical Arts bldg., Minneapolis 2, Minn. **ALR**
Fink, Otto E., '38.....9 W. Madison, **Danville, Ill. OP**
Fink, Walter H., '27
Medical Arts bldg., Minneapolis 2, Minn. **OP**
Finney, Nancy E., '37..2453 Gilbert av., Cincinnati 6, Ohio **OP**
Firestone, Charles, '40,
326 Medical Dental Bldg., Seattle, Wash. **ALR**
Fischbach, V. W., '21
Union Central bldg., Cincinnati 2, Ohio **ALR**
Fischer, Abraham, '39..Mercantile bldg., Rochester 4, N.Y. **OP**
Fischer, Aubrey, '34
1835 Eye St., N.W., Washington 6, D. C. **ALR**
Fischer, Louise, '44, Medical Towers,
31 Lincoln Park, Newark 2, N. J. **ALR**
Fischer, N. Arthur, '25
Union Trust bldg., Pittsburgh 19, Pa. **ALR**
Fisher, George Garthwaite, '41
271 New York av., Brooklyn 16, N. Y. **ALR**
Fisher, Gilbert Eugene, '42
Medical Arts bldg., Birmingham 5, Ala. **ALR**
Fisher, Guy Rothwell, '42
1 E. Beverley st., Staunton, Va. **ALR**
Fisher, H. Noland, '37....106 N. Silver st., Olney, Ill. **OP**
Fisher, James A., '25...501 Grand av., **Asbury Park, N. J. OALR**
Fisher, Lawrence Christian, '41..469 W. Market, York, Pa. **OP**
Fishman, Louis Z., '35, Green's Eye Hospital,
1801 Bush, San Francisco 9, Calif. **ALR**
Fishof, Frank E., '41, Capt. (M.C.)
England General Hospital, Atlantic City, N. J. **ALR**
Fitzgerald, Fred J. C., '34.118 E. 65th, New York 21, N. Y. **OP**
Fitzgerald, J. P., '25...30 N. Michigan av., **Chicago 2, Ill. OP**
Fitzgerald, James Robert, '43
3215 W. North av., Chicago 47, Ill. **OP**
Fitzgerald, William W., '37.... ..27 Ludlow, Yonkers, N.Y.
also, 425 Madison av., New York, N. Y. **OP**
Fitz-Hugh, Glassell Slaughter, '39
104 E. Market st., Charlottesville, Va. **ALR**
Fitzhugh, William McP., Jr., '38,
384 Post, San Francisco 8, Calif. **ALR**
Flack, J. Vincent, '37, Comdr. (MC)....Gainesville, Fla. **OP**
Flaherty, Norman W., '39 Major (MC),
Fitzsimons General Hospital, Denver 8, Colo. **OP**
Flanders, Merton, '42, Capt. (M.C.)
43 Burleigh St., Waterville, Maine **ALR**
①**Flatley, T. J., '14**.....1518 Fifth av., **Moline, Ill. OALR**
Flynn, Charles T., '27..41 Trumbull, **New Haven 10, Conn. ALR**
Flynn, James A., '24
1511 Rhode Island av. N.W., Washington 5, D. C. **ALR**
Flynn, J. Donald, '41...Ashton bldg., Grand Rapids, Mich. **ALR**
②**Fogarty, Charles W.**, '20, 372 St. Peter, St. Paul 2, Minn. **OALR**
Folken, Frank G., '28..201 S. Broadway, Albert Lea, Minn. **OALR**
Follweiler, Frank L., '43....423 York rd., Jenkintown, Pa. **ALR**
Folsom, W. H., '27.....11 N. Main, **Fond du Lac, Wis. OALR**
Font, Juan H., '33, P.O. Box 5363, Puerta de Tierra
Station, Medical Arts bldg., San Juan, Puerto Rico **ALR**
Foote, Charles M., '44
412 N. Hastings Ave., Hastings, Nebr. **OP**
Foote, William D., '43, Capt. (M.C.),
Valley Forge Gen. Hosp., Phoenixville, Pa. **OP**
Forbes, Sherman B., '22....706 Franklin, Tampa 2, Fla. **OP**
Ford, Hanby L., '28.....Robeson bldg., **Champaign, Ill. OALR**
Ford, Harry C., '44
2814 North Walker, Oklahoma City, Okla. **ALR**
Ford, Leroy Sargent, '42.....30 School St., Keene, N. H. **ALR**
Ford, William W., '38....109 E. Walnut, Green Bay, Wis. **ALR**

Forrester, Alex M., '43, Capt. (M.C),
Hammer Field, Fresno, Calif. **ALR**
②**Forsythe, S. T.**, '19.....Rose bldg., Cleveland 15, Ohio **OALR**
Foster, Clarence Batchelder, '42
520 Professional bldg., Charlotte, N. C. **OP**
Foster, George C., '36.....Fargo Clinic, Fargo, N. D. **OALR**
③①**Foster, Hal**, '94, (Retired),
Brookside Hotel, 54 & Brookside blvd., Kansas City, Mo. **ALR**
Foster, Harold, '35
92-11 35th av., Jackson Hts., New York, N. Y. **ALR**
①**Foster, J. H.**, '13....1304 Walker av., Houston 2, Texas **ALR**
Foster, Warren H., '35....217 Fifth av. S., Clinton, Iowa **ALR**
Foster, Wayne J., '35....Higley bldg., Cedar Rapids, Iowa **ALR**
Fowler, Earle B., '25....55 E. Washington, Chicago 2, Ill. **OP**
Fowler, Edmund Prince, Jr., '40
180 Ft. Washington Ave., New York 32, N. Y. **ALR**
Fowler, Floyd J., '43, Akron Clinic,
513 W. Market, Akron 3, Ohio **ALR**
Fowler, James G., '37...412 Linwood av., Buffalo 9, N. Y. **OP**
Fowler, Robert H., '29..610 Park av., New York 21, N. Y. **ALR**
Fowlkes, John W., '29....12 E. 63rd, New York 21, N. Y. **ALR**
Fox, C. Calvin, '37.....1806 Spruce, Philadelphia 3, Pa. **ALR**
Fox, Meyer S., '40
208 E. Wisconsin av., Milwaukee 2, Wis. **ALR**
Fox, Noah, '26.....841 E. 63rd, Chicago 37, Ill. **ALR**
Fox, Samuel L., '43, 1205 St. Paul st., Baltimore 2, Md. **ALR**
Fox, Sidney A., '37...63 E. 75th St., New York, 21, N. Y. **OP**
Frackelton, Ralph J., '37
15701 Detroit av., Lakewood 7, Ohio **ALR**
Fralick, F. Bruce, '33
First National bldg., Ann Arbor, Mich. **OP**
Francis, Charles C., '39
610 West End av., New York 24, N. Y. **ALR**
Francis, Norton L., '41, Lt. Comdr. (MC), USNR
Villisca, Iowa **ALR**
Frank, David I., '37, 60 Gramercy Park, New York 10, N. Y. **ALR**
Frank, Herman W., '43.....Medical bldg., Gadsden, Ala. **OP**
Fraser, R. H., '25
25 W. Michigan av., Battle Creek, Mich. **ALR**
Fraser, Robert C., '29,
6777 Hollywood blvd., Los Angeles 28, Calif. **ALR**
Fraser, W. G., '27.....Medical Arts bldg., Ottawa, Can. **OALR**
Frazee, John R., '36.....311 Beacon st., Boston, Mass. **ALR**
Fread, Bernard, '37.....45 E. 85th, New York 28, N. Y. **OP**
Fred, Gustave B., '36....520 Beacon st., Boston 15, Mass. **ALR**
Freedman, A. O., '32
1396 St. Catherine st. W., Montreal, Can. **ALR**
①**Freedman, L. M.**, '13
475 Commonwealth av., Boston 15, Mass. **ALR**
Freeman, Marvin S., '44, Capt. (M.C.), 0489705,
17401 Edgewater Drive, Cleveland 7, Ohio **ALR**
Freeman, Sheldon B., '40
196 Linwood av., Buffalo 9, N. Y. **OP**
Freiman, George, '38..99 Lafayette av., Brooklyn 17, N. Y. **OP**
Freimuth, L. E., '27
University Club bldg., St. Louis 3, Mo. **ALR**
①**French, R. F.**, '11..Masonic Temple, Marshalltown, Iowa **OALR**
French, Robert W., '37.....181 Pleasant, Malden, Mass. **OP**
Freund, E. M., '41.....762 Madison av., Albany 3, N. Y. **ALR**
Frey, Walter D., '43.....200 N. Upper, Lexington 15, Ky. **OP**
Frey, W. G., Jr., '34....121 E. 60th, New York 22, N. Y. **OP**
Friedberg, Stanton A., '39
122 So. Michigan Ave., Chicago 3, Ill. **ALR**
①**Friedenwald, Harry**, '04
1212 Eutaw pl., Baltimore 17, Md. **OPA**
Friedenwald, J. S., '25..1212 Eutaw pl., Baltimore 17, Md. **OP**
Friedman, Benjamin, '33, Comdr. (M.C.) USNR
485 Central Park W., New York, N. Y. **OP**
Friedman, Elmer Arthur, '41, Comdr. (M.C.), USNR
Hospital, Naval Air Station, Jacksonville, Fla. **ALR**
Friedman, Louis Leonard, '40
6078 Jenkins Arcade, Pittsburgh 22, Pa. **ALR**
①**Fringer, W. R.**, '04.....109 Sheridan st., Rockford, Ill. **OP**
Fritsche, Theodore R., '37.Fritsche bldg., New Ulm, Minn. **OALR**
Frost, Carl Grover, '41..333 Linwood av., Buffalo 9, N. Y. **ALR**
Frothingham, Edward, '28
8626 94th, Woodhaven 21, L. I., N. Y. **OALR**
Frothingham, Florie D., '41
133 E. 58th, New York 22, N. Y. **ALR**
Fry, W. E., '31.....1819 Chestnut, Philadelphia 3, Pa. **OP**
Fuchs, Valentine H., '28
American Bank bldg., New Orleans 12, La. **ALR**
①**Fulkerson, C. B.**, '15
107 W. Michigan av., Kalamazoo 9, Mich. **OALR**
②**Fullenwider, C. M.**, '18...Barnes bldg., Muskogee, Okla. **OALR**
Fuller, John A., '28....First Nat'l Bank bldg., Reno, Nev. **OALR**
①**Fuller, T. E.**, '15.....209 Pine, Texarkana, Texas **OALR**
Fulton, Harry C., '37.....339 N. Duke, Lancaster, Pa. **OP**
Furlong, Frank C., '44, 713 Union st., Schenectady, N. Y. **ALR**
Furlong, Thomas F., Jr., '35
Times Medical bldg., Ardmore, Pa. **ALR**
Furman, Martin A., '36,
203 W. 98th st., c/o H. King, New York 25, N. Y. **ALR**
Furstenberg, A. C., '25
First Nat'l bldg., Ann Arbor, Mich. **ALR**
Fust, John H., '22.....231 W. 7th, Erie, Pa. **OALR**

G

Gabriel, C. K., '30..Illinois State Bank bldg., Quincy, Ill. **OALR**
Gadomski, Casimir Francis, '42
Capt. (M.C.), 331 S. Broad st., Elizabeth 2, N. J. **OP**
Gagion, Thomas Reed, '40.....23 Broad st., Pittston, Pa. **OP**
Gaida, Joseph B., '37....St. Mary's bldg., St. Cloud, Minn. **OP**
Gailey, Watson W., '22...1008 N. Main, Bloomington, Ill. **OALR**
Gaillard, Milton T., '44.....5 Park av., Baldwin, N. Y. **OP**
Gaines, Thomas R., '40..Professional bldg., Anderson, S. C. **OP**
②**Gale, M. Jean**, '18.....Republic bldg., Denver 2, Colo. **OP**
Gallizzi, Vincent D., '42,
307 Dime Bank bldg., Pittston, Pa. **ALR**
Galloway, T. C., '27.....636 Church, Evanston, Ill. **ALR**
Gambill, Perry Judson, '42
New Jersey State Hospital, Greystone Park, N. J. **ALR**
Gamble, R. C., '29.....30 N. Michigan av., Chicago 2, Ill. **OP**
Gans, Jerome A., '43, Capt. (MC), 0-535443
279th Sta. Hosp., APO 755, c/o PM, New York, N. Y. **OP**
①**Garber, J. M.**, '11.....14 N. Mulberry, Mansfield, Ohio **OALR**
Garland, Frederick E., '34...483 Beacon, Boston 15, Mass. **LR**
Garlick, George B., '36.144 Golden Hill, Bridgeport 3, Conn. **ALR**
Garlock, Arthur Varney, '41....217½ 3rd, Bemidji, Minn. **OP**
Garnier, William Hampton, '41
Doctors bldg., Madisonville, Ky. **ALR**
Garofalo, Charles J., '37.439—77th st., Brooklyn 9, N. Y. **ALR**
Garrett, Ernest W., '35...Hanna bldg., Cleveland 15, Ohio **ALR**
Garrett, John D., '32, Bar Ass'n bldg., Indianapolis 4, Ind. **ALR**
Garrick, Thomas J., '36...40 E. 61st, New York 21, N. Y. **ALR**
Garten, Joseph L., '40,
502 Medical Arts bldg., Minneapolis, Minn. **OALR**

Gartner, Samuel, '39....521 Park av., New York 21, N. Y. **OP**
Gaston, Ira E., '38
833 Medical-Dental bldg., Portland 5, Ore. **OALR**
Gatewood, E. T., '25. Professional bldg., Richmond 19, Va. **ALR**
①Gatewood, W. L., '15
111 E. 61st st., New York 21, N. Y. **ALR**
Gaudet, Lucien S., '28.....405 Franklin, Natchez, Miss. **OALR**
Gaudreau, Honore E., '34..293 Bridge, Springfield 3, Mass. **OP**
Geary, Russell Diener, '42
337 Bridgeboro Road, Riverside, N. J. **ALR**
Geeseman, George R., '42, Maj. (M.C.),
634 Washington rd., Pittsburgh 16, Pa. **OP**
①**Geiger, C. W.,** '04.....Arcade bldg., Kankakee, Ill. **OALR**
Geiger, Dillon, '41.....N. Fee Lane, Bloomington, Ind. **ALR**
Gemeroy, Joseph C., '35
664 Fisher Bldg., Detroit 2, Mich. **OP**
Gemmill, Walter D., '39.....130 Seventh, Monessen, Pa. ALR
George, Arthur R., '41, Capt. (M.C.),
Sec. M, Davis Monthan Field, Tucson, Ariz. **ALR**
George, Forney P., '37.....118 S. Hanover, Carlisle, Pa. ALR
Gernon, William, '41, Capt. (M.C.), 0-400253,
Address Unknown **OP**
Gertsley, Manfred J., '33
103 Hempstead av., Lynbrook, L. I., N. Y. **ALR**
Gerstner, Martin Llewellyn, 40, Major (MC),
27 Admiral rd., Buffalo 16, N. Y. **ALR**
Gerzog, Bennett G., '37
891 St. Marks av., Brooklyn 13, N. Y. **ALR**
Gessler, Wm. F., '33
2902 Fairfield av., Ft. Wayne 6, Ind. **OALR**
Gettes, Charles N., '44, 481 Beacon st., Boston 15, Mass. **ALR**
Gewanter, Robert, '37
41-44 44th st., Long Island City 4, N. Y. **ALR**
Gibb, William B., '44, 1515 State st., Santa Barbara, Calif. **OP**
Gibby, Harold J., '31.....27 Elm, Worcester 8, Mass. **ALR**
Gibson, Glen G., '35.....255 S. 17th, Philadelphia 3, Pa. **OP**
Gibson, William J., '43....650 Main, New Rochelle, N. Y. **ALR**
Gidoll, Sidney H., '42
516 Sutter st., San Francisco 2, Calif. **ALR**
Gifford, Harold, '37....Medical Arts bldg., Omaha 2, Nebr. OP
Gilbert, Joseph G., '36, Comdr. (M.C.), USNR,
Address Unknown **ALR**
Gilbert, Ralph H., '41..Metz bldg., Grand Rapids 2, Mich. **OP**
Gilfillan, Homer J., '41.....1416 Main st., Quincy, Ill. **ALR**
②**Gill, E. G., '19.....711 S. Jefferson, Roanoke 10, Va. ALR**
Gill, Earl King, '36
416 Chaparral st., Corpus Christi, Texas **ALR**
Gill, G. Bache, '23
1726 Eye st. N.W., Washington 6, D. C. **ALR**
Gill, Wm. Davis, '29
705 E. Houston, San Antonio 5, Texas **OALR**
Gillespie, Elmer H., '38..30 E. 40th, New York 16, N. Y. **ALR**
②**Gillett, Wilbur G.,** '20,..201½ N. Main, Wichita 2, Kan. **OP**
Gillette, D. F., '25.....State Tower, Syracuse 2, N. Y. **OP**
Gilligan, Alexander, '39....1154 Dean, Brooklyn 16, N. Y. ALR
Gilliland, O. S., '30.Professional bldg., Kansas City 6, Mo. **ALR**
Gillis, Marion Howard, Jr., '43
204 Walnut, Salisbury, Md. **OP**
②**Gillum, J. R., '20.....221 S. 6th,** Terre Haute, Ind. **OALR**
Gilmore, Goodlatte Browne, '41
2940 Grand Concourse, New York 58, N. Y. **ALR**
Gilmore, Milton A., '36.....Box 172, Parkersburg, W. Va. OP
Gilmore, Robert O., '39.....1159 Hancock, Quincy, Mass. ALR
Gipner, J. F., '26...Medical Arts bldg., Rochester 7, N. Y. OP
Girard, Paul H., '44, 258 Genesee St., Utica, N. Y. **OP**
Gissy, C. J., '43..717 Metropolitan bldg., St. Louis 3, Mo. OP
②**Gittins, T. R.,** '20....Davidson bldg., Sioux City 13, Ia. **OALR**
Givner, Isadore, '36.....108 E. 66th, New York 21, N. Y. OP
Glasford, S. T., '24.....416 Elizabeth, Pekin, Ill. OALR
Glasgow, S. Condit, '44, 8 E. Alisal St., Salinas, Calif. **ALR**
Glatt, Morris A., '31....55 E. Washington, Chicago 2, Ill. **ALR**
Glauber, Jerome J., '44, Capt. (MC), 0512881
301st AAFBU, Sq. A, Drew Field, Fla. **ALR**
Gleason, John E., '40
David Whitney bldg., Detroit 26, Mich. **ALR**
Glick, Harry N., '28.3115 S. Grand blvd., St. Louis 18, Mo. ALR
①**Glosser, H. H., '12.....448 Franklin, Buffalo 2, N. Y. OP**
Glover, Arthur C., '33.....311 W. Church, Elmira, N. Y. OALR
Glover, Lewis P., '38....1200 Fourteenth av., Altoona, Pa. OP
Glowacki, Ben F., '28...Maccabees bldg., Detroit 2, Mich. OALR
Glushak, Leopold, '38..1 West 85th, New York 24, N. Y. **ALR**
Goad, R. R., '31, Capt. (MC), USN,
207 Broadway, Muscatine, Iowa **OP**
Goar, Everett L., '26...1300 Walker av., Houston 2, Texas OP
Godwin, Dean E., '44, 117 E. 8th st., Long Beach 2, **Calif. ALR**
Goehring, Donald Everett, '41
Butler S. & T. bldg., Butler, Pa. **ALR**
Goetzman, Arthur C., '42,
308 United Office bldg., Niagara Falls, N. Y. **OP**
①**Goldbach, L. J., '11.....6 East Eager, Baltimore 2, Md. OP**
Goldberg, Herman K., '42
719 N. Charles st., Baltimore, Md. **OP**
Goldberg, Sol, '39, 8080 Jenkins Arcade, Pittsburgh 16, Pa. **OP**
Goldberg, Sylvan S., '35
1917 Wilshire blvd., Los Angeles 5, Calif. **ALR**
Goldcamp, Edward C., '32
Dollar Bank bldg., Youngstown 3, Ohio **ALR**
Goldcamp, John S., '41
810 Dollar Sav. & Tr. Co. bldg., Youngstown 3, Ohio **OP**
Golden, Matthew G., '33.....1 Nevins, Brooklyn 17, N. Y. **ALR**
Goldenburg, Michael, '31
104 S. Michigan av., Chicago 3, Ill. **OP**
Golding, Joseph E., '25.....1 Nevins, Brooklyn 17, N. Y. **OP**
Goldmacher, H. B., '43.113 Elmora av., Elizabeth 2, N. J. **ALR**
Goldman, A. Milton, '28
1 N. Village av., Rockville Centre, L. I., N. Y. **OP**
Goldman, H. G., '23..57 W. 58th st., New York 19, N. Y. **ALR**
Goldman, Irving Brice, '40
121 E. 60th, New York, 22, N. Y. **ALR**
Goldsmith, Jacob, '41, Major (M.C.),
Battey General Hospital, Rome, Ga. **OP**
①②**Goldsmith, Perry,** '12
Medical Arts bldg., Toronto 5, Can. **ALR**
Goldstein, Henry Z., '36, Capt. (M.C.),
31 Lincoln Park, Newark, N. J. **ALR**
Goldthwaite, Ralph H., '35, Brig. Gen. (M.C.),
Army and Navy Gen. Hosp., Hot Springs, Ark. **OALR**
Gollom, Joseph, '38.....425 Bloor st. W., Toronto, Can. ALR
Gomon, Louis D., '37.....Eddy bldg., Saginaw, Mich. OP
Gonne, Wm. S., '36
David Whitney bldg., Detroit 26, Mich. **ALR**
Gooch, John B., '35
Canal Bank bldg., New Orleans 12, La. **ALR**
Good, Palmer W., '37, Capt. (M.C.),
Eye Clinic, O. C. Hosp., Mitchel Field, N. Y. **OALR**
Good, Richard P., '41
308 Armstrong-Landon bldg., Kokomo, Ind. **ALR**
Good, Wm. M., '29.....63 Center, Waterbury 18, Conn. ALR

Goodale, Robert L., '36..330 Dartmouth, Boston 16, Mass. ALR
Goodall, Edwin B., '34..71 Bay State Rd., Boston 15, Mass. OP
Goode, Edward A., '29
143—28 Sanford av., Flushing, N. Y. ALR
Goodell, William, '34...121 Chestnut, Springfield 3, Mass. ALR
Goodfellow, Thomas J., '39
Arcade bldg., Saratoga Springs, N. Y. OALR
Goodhill, Victor, '42, 676 S. Westlake, Los Angeles 5, Calif. ALR
Goodman, E. Leonard, '36
1801 Eye st. N.W., Washington 6, D. C. OP
Goodman, Thomas L., '31
1601 Clover Lane, Fort Worth 7, Texas ALR
Goodspeed, Harry B., '34
36 Pleasant, Worcester 8, Mass. ALR
Goodwin, Thomas M., '38....Golden Clinic, Elkins, W. Va. ALR
Goodwin, Vernon L., '43
509 Central Tower, Youngstown 3, Ohio ALR
Goodyear, H. M., '24....Doctors bldg., Cincinnati 2, Ohio ALR
Gordon, Benjamin L., '44
Prof. Arts bldg., Atlantic City, N. J. OP
Gordon, Charles H., '26....46 Deering, Portland 4, Maine ALR
Gordon, Glenn G., '29.....Alexander bldg., Baker, Ore. ALR
Gordon, William, '33.....1721 Pine, Philadelphia 3, Pa. ALR
Gorin, Meyer, '42.....35 Chestnut, Rochester 4, N. Y. ALR
Gorman, James R., '36...Allied Arts bldg., Lynchburg, Va. ALR
Gorney, Arthur J., '39, 416 Marlborough st., Boston, Mass. ALR
①Gorrell, T. J. H., '09
16th and Vincennes, Chicago Heights, Ill. OALR
Gorrilla, Laurence Vincent, '42
511 S. Bonnie Brae st., Los Angeles 5, Calif. OP
②Gosney, C. W., 20,
5217 Hollywood blvd., Los Angeles 27, Calif. OP
Goss, Harold L., '37....1305 Fourth av., Seattle 1, Wash. OP
Gottlieb, Bernard N., '39
387 Eastern Parkway, Brooklyn 16, N. Y. ALR
Gough, Roy H., '31....600 W. 10th, Fort Worth 2, Texas OALR
Gould, Nathaniel Jay, '37
940 Grand Concourse, New York 56, N. Y. OP
Gouterman, Joseph I., '30,
1930 Chestnut, Philadelphia 44, Pa. OP
Goux, Raymond S., '22
David Whitney bldg., Detroit 26, Mich. OALR
Gowen, Thomas F., '39, Lt. (M.C.), USNR,
Address unknown ALR
Gowens, Henry L., Jr., '42
2217 Delancey, Philadelphia 3, Pa. OP
Grace, Charles C., '33.....145 King, St. Augustine, Fla. ALR
Gracey, George F., '24.....209 State, Harrisburg, Pa. OALR
①Gradle, Harry S., '11...58 E. Washington, Chicago 2, Ill. OP
Graebner, Herbert, '34, American Airlines, NYMA,
Jackson Heights, New York, N. Y. ALR
Graef, Fred W., '36....140 E. 54th, New York 22, N. Y. ALR
Granberry, Carl, '34
Maison Blanche bldg., New Orleans 16, La. ALR
②Granger, W. B., '20.....Gazette bldg., Emporia, Kans. OALR
①Grant, Fred E., '12
Kalamazoo Nat'l Bank bldg., Kalamazoo 9, Mich. OALR
Grant, H. W., '30.Lowry Med. Arts bldg., St. Paul 2, Minn. OP
Grant, Maurice David, '41
1860 Morris av., New York 53, N. Y. ALR
③Graves, Basil, '26
11 Devonshire pl., Upper Wimpole, W.1, London, Eng.
Greear, James M., Jr., '29
1740 M st. N.W., Washington 6, D. C. OP
Green, Hyman S., '35..25 E. Washington st., Chicago, Ill. OALR
①Green, John, '05
3720 Washington blvd., St. Louis 8, Mo. OP
Green, Stanley L., '44, 129 W. Lexington, Independence, Mo. OP
Greenburg, Maynard M., '39
516 Medical Arts bldg., Omaha 2, Nebr. OP
Greene, James S., '36....61 Irving pl., New York 3, N. Y. ALR
Greene, Laurence W., '28..Republic bldg., Denver 2, Colo. ALR
Greene, Maurice L., '30
501 Missouri Theater bldg., St. Louis 3, Mo. OP
Greenfield, Samuel D., '27
169 New York av., Brooklyn 16, N. Y. ALR
Greenfield, William J., '28, 50 Anderson, Hackensack, N. J.,
and 30 E. 40th, New York 16, N. Y. ALR
Greenlee, Max R., '38.....105 Willow St., Clarinda, Ia. ALR
Greenwood, Glenn J., '30
154 Medio dr., Los Angeles 24, Calif. ALR
②Greever, B. L., '20.....100 N. Main, Hutchinson, Kan. OALR
②Gregg, John B., '20
Security Nat'l Bank bldg., Sioux Falls, S. D. OALR
Gresser, Edward B., '29...39 E. 75th, New York 21, N. Y. OP
Gressette, James H., '44.....Orangeburg, S. C. ALR
Griesemer, Z. Lawrence, '43,
1145 E. Jersey, Elizabeth 4, N. J. OP
Griesman, Bruno L., '39, 3 E. 66st., New York 21, N. Y. ALR
Grieve, Harry G., '44
205 Med. Arts bldg., Winnepeg, Manitoba, Can. OALR
Griffey, Edward W., '29
Medical Arts bldg., Houston 2, Texas OALR
Griffey, Walter P., '39
U. S. Marine Hospital, Staten Island 4, N. Y. OP
Griffin, Edwin A., '34
18 Prospect Park West, Brooklyn 15, N. Y. ALR
Griffith, Harold M., '30
Johnstown Bank & Trust bldg., Johnstown, Pa. OP
Grigsby, Roll O., '40....100 E. Second st., Ashland, Wis. ALR
Grimaldi, Americo John, '40
100 West 59th, New York 19, N. Y. OP
Grimmett, Roger Skelton, '40
406 Akron Saving & Loan bldg., Akron 8, Ohio ALR
②Gross, Julius E., '20..3401 Fifth av., Pittsburgh 13, Pa. ALR
Grossman, Herman P., '38..210 Angell, Providence 6, R. I. OP
Grossman, Erwin E., '44
238 W. Wisconsin av., Milwaukee, Wis. OP
Grove, Bruce Alexander, '42....426 W. Market, York, Pa. OP
Grove, Russell C., '37....60 E. 58th, New York 22, N. Y. ALR
①Grove, W. E., '14
324 E. Wisconsin av., Milwaukee 2, Wis. OALR
Gruppe, Karl W., '38.....258 Genesee, Utica 2, N. Y. ALR
Gsell, George F., '38, Major (MC),
920 E. 10th av., Winfield, Kans. OP
②Gsell, J. F., '20....911 Beacon bldg., Wichita 2, Kans. OALR
Gubner, Julius, '37.....25 Lefferts av., Brooklyn 25, N. Y. ALR
②Guggenheim, L. K., '18
321 Glenroy av., Los Angeles 24, Calif. ALR
Guibor, George P., '33, 303 Central Life bldg., Ottawa, Ill. OP
Gulick, John Duncan, '41,704 Union, Schenectady 5, N. Y. ALR
Gump, Millard E., '39....411 30th St., Oakland 9, Calif. OP
①Gundelach, C. A., '12
University Club bldg., St. Louis 3, Mo. ALR
Gunderson, Trygve, '35,..101 Bay State rd., Boston, Mass. OP
Gunderson, Ernest O., '44...c/o Mrs. Carl Frick, Britt, Ia. OP
Gundrum, Lawrence Kramer, '42
1930 Wilshire blvd., Los Angeles 5, Calif. ALR
Gunn, Milus L., '29.....107 E. Mound, Harlan, Ky. ALR

Gurtov, John J., '37
1235 Grand Concourse, New York 52, N. Y. ALR
Gustafson, Olga Frideberg, '38
185 N. Wabash av., Chicago 1, Ill. OP
Guttman, M. Reese, '29.30 N. Michigan av., Chicago 2, Ill. ALR
Guy, Loren P., '34.....40 E. 62nd, New York 21, N. Y. OP
②Guyton, B. S., '18....512 Van Buren av., Oxford, Miss. OALR
Guyton, Jack Smallwood, '41
Johns Hopkins Hospital, Baltimore 5, Md. OP
Guzek, Joseph T., '43, Capt. (M.C.), 0-485618,
Address unknown OP

H

Haas, Louis Richard, '42....Smith Clinic, Pittsburg, Kan. OALR
①Haden, Henry C., '13.....1914 Travis, Houston 3, Texas OP
Haessler, F. Herbert, '29...Wells bldg., Milwaukee 2, Wis. OP
Hagaman, Van Dyke, '34
Lamar Life bldg., Jackson 2, Miss. ALR
Hagan, Cornelius E., Jr., '42, Capt. (M.C.),
AAFCH Professional Services, Ft. George Wright, Wash. ALR
Hageman, George Ricker, '42
Longmont Hospital, Longmont, Colo. ALR
Hagens, Elmer William, '41.30 N. Michigan, Chicago 2, Ill. ALR
Haggart, Harry H., '37,
920 Carew Tower, Cincinnati 2, Ohio ALR
Hagood, Daniel S., '43
822 First Nat'l Bank bldg., Montgomery 4, Ala. OP
Hague, Elliott B., '39.....454 Franklin, Buffalo 2, N. Y. OP
Hahn, Wm. H., '30.....15 Lombardy, Newark 2, N. J. OP
Hahn, William N., '38
City Nat'l Bank bldg., Omaha 2, Nebr. OP
Haik, George M., '43, 812 Maison Blanche bldg.,
New Orleans, La. OP
Haines, Henry L., '43, Lt. (M.C.) USNR
Pequot Trail, RFD No. 1, Stonington, Conn. ALR
Haire, Paul G., '35.....6 Pleasant, Malden 48, Mass. OP
Hale, Arthur S., '28.....Eaton Tower, Detroit 26, Mich. OALR
Haley, Paul J. D., '37..333 Winthrop, Medford 55, Mass. ALR
Haley, Wm. T., '33.....531 Beacon, Boston 15, Mass. ALR
Hall, Alice K., '24.....25 E. Washington, Chicago 2, Ill. ALR
Hall, Colby, '42, Capt. (M.C.),
545 S. Hobart Blvd., Los Angeles 5, Calif. ALR
Hall, Donald S., '44, Capt. (M.C.),
Street Clinic Library, Crawford & Monroe sts.,
Vicksburg, Miss. OALR
Hall, Edwin P., '28.....76 Chestnut, Oneonta, N. Y. ALR
①Hall, G. C., '07....139 Sagamore rd., Louisville 7, Ky. OALR
Hall, Lawrence H., '39....1520 Oak, So. Pasadena, Calif. OALR
Hall, Raymond A., '39
514 Home Sav. & Loan bldg., Youngstown, Ohio ALR
Hall, Sobisca S., '34, Empire Bank Bldg., Clarksburg, W. Va. ALR
Hallaron, John J., '44, Capt. (M.C.),
3405 St. Charles av., New Orleans, La. ALR
Hallberg, Olav Erik, '42.....Mayo Clinic, Rochester, Minn. ALR
Hallum, Alton V., '34.....478 Peachtree, Atlanta 3, Ga. OP
②Halsted, Fred S., '18
Metropolitan bldg., Denver 2, Colo. OALR
Halton, Edward P., '37
1456 Northampton, Holyoke, Mass. ALR
Hamilton, Howard Eugene, '42
10515 Carnegie av., Cleveland 6, Ohio ALR
Hamilton, Richard G., '40
Medical Arts bldg., Pittsburgh 13, Pa. ALR
Hamlin, Fred E., '26..Medical Arts bldg., Roanoke 11, Va. ALR
Hammond, Arthur, '35
David Whitney bldg., Detroit 26, Mich. ALR
Hampsey, Joseph W., '37....May bldg., Pittsburgh 22, Pa. ALR
Hamrick, DeWitt, '40.....601 Jackson, Corinth, Miss. ALR
Hanckel, Richard White, Jr., '42
96-A Bull, Charleston 16, S. C. ALR
Hancox, Cecil W., '39..Bahr Arcade bldg., Pottstown, Pa. ALR
Hand, Frank, '35.....450 Sutter, San Francisco 8, Calif. ALR
Hands, Sidney G., '26.....201 W. 2nd, Davenport, Iowa ALR
②Haney, Wm. P., '20, Medical Arts bldg., Omaha 2, Nebr. OALR
Hankins, George Geddy, '41
Medical Arts bldg., Newport News, Va. ALR
Hanley, Swift, '37....40 W. 55th, New York 19, N. Y. ALR
Hanley, Jeanne Roeling, '39
Maison Blanche bldg., New Orleans 16, La. ALR
Hannon, R. Emmet, '42, Maj. (M.C.),
Walter Reed General Hospital, Washington, D. C. OP
②Hans, C. L., '19..Provident Bank bldg., Cincinnati 2, Ohio OP
Hansel, French K., '26.634 N. Grand av., St. Louis 3, Mo. ALR
②Hansen, Erling W., '20
Medical Arts bldg., Minneapolis 2, Minn. OP
Hanser, Samuel Albert, '43
3424 Longfellow blvd., St. Louis 4, Mo. OP
Hanson,, Wm. L., '29, Spivey bldg., East St. Louis, Ill. ALR
Hantman, Irvin, '39, Capt. (M.C.),
c/o Greenberg, 3647 Cottage av., Baltimore, Md. ALR
Happ, Linley C., '41, 199 Thayer st., Providence 6, R. I. ALR
Hara, H. James, '33
Hinsdale Sanitarium and Hospital, Hinsdale, Ill. ALR
Haralson, Charles H., '29.Medical Arts bldg., Tulsa 3, Okla. OP
②Harbert, John P., '19, 135 N. Main, Bellefontaine, Ohio OALR
Hardesty, J. F., '22
Missouri Theatre bldg., St. Louis 3, Mo. OP
Hardie, G. C., '30....290 W. Michigan av., Jackson, Mich. OALR
Harding, Myron S., '38
308 Hume-Mansur bldg., Indianapolis 4, Ind. OP
Hardy, Guerdan, '38, Comdr. (M.C.),
7460 Stratford av., St. Louis 5, Mo. OALR
Hardy, LeGrand H., '28...23 E. 79th, New York 21, N. Y. OP
①Hardy, W. F., '14.....Humboldt bldg., St. Louis 3, Mo. OP
Hardy, Walter B., '36.2121 Highland, Birmingham 5, Ala. ALR
Hargitt, Charles A., '26.17 Schermerhorn, Brooklyn 2, N. Y. OP
Harkins, Herbert P., '42
1930 Chestnut st., Philadelphia 3, Pa. ALR
Harkins, Wm. Blake, '41, Lt. Comdr. USN
Hdqrs. F.M.F. Pacific c/o FPO, San Francisco, Cal. ALR
Harlowe, Harold Douglas, '40, Major (M.C.)
Box 41, Shalimar, Fla. ALR
①Harkness, Gordon F., '11
Putnam bldg., Davenport, Iowa OALR
Harned, John W., '39, Lt. Col. (MC),
Frost Woods, Madison 4, Wis. ALR
Harner, Clyde E., '39..491 W. Gilman st., Banning, Calif. OALR
Harnick, Israel, '39..1132 Delaware av., Buffalo 9, N. Y. ALR
Harrell, Voss, '26.....Hofman bldg., Detroit 1, Mich. ALR
Harrill, James A., '41
Bowman Gray School of Medicine, Winston Salem, N. C. ALR
Harrington, John Thomas, '40, Comdr. (M.C.), USNR,
Dispensary No. 1, Tadcen, Treas. Is., San Fran., Cal. ALR
Harrington, Silas Frederick, '42
Medical Arts bldg., Dallas 1, Texas ALR
①Harris, C. M., '10.Johnstown Trust bldg., Johnstown, Pa. OALR
Harris, Carl B., '41
319 Hume Mansur bldg., Indianapolis 4, Ind. OP
Harris, Edward W., '30, Major (M.C.),
Station Hospital, March Field, Calif. ALR

①Harris, H. B., '10.Fidelity Medical bldg., Dayton 2, Ohio **OALR**
Harris, Harold Earl, '42.Cleveland Clinic, Cleveland 6, Ohio ALR
Harris, Herbert H., '39, Maj. (M.C.)....Address Unknown **ALR**
Harris, J. Harley, '31
Methodist Hosp., Doctors bldg., Memphis, 4, Tenn. **ALR**
Harris, Louis D., '44, Capt. (M.C.),
Bushnell General Hosp., Brigham City, Utah **OP**
Harris, Morris, '44, Capt. (MC), 0-540855
Lovell Gen. Hosp., South, Ft. Devens, Mass. **OP**
Harris, Morris L., '40.....20 Plaza, Brooklyn 17, N. Y. ALR
Harris, Robin, '23.....964 N. State, Jackson 6, Miss. ALR
Harrison, Fred H., '28
Second Nat'l Bank bldg., Connellsville, Pa. **OALR**
Harrison, Glen H., '44..307 Washington st., Waukegan, Ill. **OP**
Hart, Noah Leon, '44, Capt. (M.C.), 0-460831,
Station Hospital, A.A.F., Kearney, Nebr. **ALR**
Hartenbower, George E., '38, 1212 Broadway, Normal, Ill. ALR
Hartgraves, Hallie, '38.28 W. Adams av., Detroit 26, Mich. OP
Hartman, Deane C., '44
727 W. Seventh st., Los Angeles 14, Calif. **OP**
Hartman, Eugene C., '33
610½ Market, Parkersburg, W. Va. **OALR**
Hartshorne, Isaac, '26..30 W. 59th, New York 19, N. Y. **OP**
①Hartzell, Sol. M., '11
137 So. Peck dr., Beverly Hills, Calif. **OALR**
①Harvey, N. Darrell, '04.112 Waterman, Providence 6, R.I. **OALR**
②Haskell, Alfred W., '18.....142 High, Portland 3, Maine **OP**
①Haskin, W. H., '13...375 Park av., New York 22, N. Y. **ALR**
Hasty, F. E., '25.....1203 Asturia, Coral Gables, Fla. **ALR**
Hatcher, William F., '38
409 Medical Arts bldg., Roanoke 11, Va. **OP**
①Hauer, A. M., '16.....350 E. State, Columbus 15, Ohio **ALR**
①Haughey, Wilfrid H., '11.Post bldg., Battle Creek, Mich. **OALR**
Haughton, Thomas J., '44, Maj. RCAMC,
No. 1 Canadian Gen. Hosp., Canadian Army Overseas **ALR**
Hauser, I. Jerome, '38,
2311 David Broderick Tower, Detroit 26, Mich. **ALR**
Hauser, Maurice J., '43, Major (MC) 0-337550
Address unknown **OP**
Hausmann, Gertrude S., '44.629 16th st., Denver 2, Colo. **OP**
Haven, Walter K., '44
1009 Nicollett av., Minneapolis 2, Minn. **OALR**
Havens, Fred Z., '36....Mayo Clinic, Rochester, Minn. ALR-PI S
②Hawman, Erle G., '20
4051 N. Broad, Philadelphia 40, Pa. **OP**
Hawn, Hugh W., '44
807 Broadway, Fargo Clinic, Fargo, N. D. **OP**
Hawthorne, Allen T., '38
110 N. Braddock, Winchester, Va. **ALR**
Hayden, Jerome William, '42
4458 Madison st., Chicago 24, Ill. **ALR**
Hayes, Merrill B., '40.....710 Madison st., Chester, Pa. **ALR**
Hayes, Robert T., '36....42 Coburg, St. John, N. B., Can. ALR
Hays, Charles E., '39....U. S. Bank bldg., Johnstown, Pa. ALR
Hazen, S. Frank, '39.....231 Chestnut, Meadville, Pa. ALR
①Heard, Mary K., '10
R.F.D. 2. Box 75, St. Petersburg 6, Fla. (Retired) **OP**
Heare, Louis C., '39.....Box 312, Port Arthur, Texas **OP**
Hearn, Paul P., '43, Capt. (M.C.),
701 Sheridan, Columbus 4, Ohio **ALR**
Heath, Parker, '24..David Whitney bldg., Detroit 26, Mich. OP
Hebble, Howard Miller, '40
320 Chester av., Moorestown, N. J. **ALR**
Hebert, Arthur W., '27.450 Sutter, San Francisco 8, Calif. OALR
Heckert, Frank B., '44
1105 Bank of Lansing bldg., Lansing, Mich. **OP**
Hedemark, Norman G., '43, Major (M.C.)
218 Eastman Bldg., Boise, Idaho **OALR**
Hedlund, G. O., '36.....616 Mentor av., Painesville, Ohio **ALR**
②Heeb, Harry J., '18
212 W. Wisconsin av., Milwaukee 3, Wis. **OALR**
①Heed, C. R., '10.....1205 Spruce, Philadelphia 7, Pa. **OP**
Heetderks, D. R., '30
Medical Arts bldg., Grand Rapids 2, Mich. **ALR**
Heidelman, George, '39
Union Central bldg., Cincinnati 2, Ohio **OP**
Heinberg, Charles J., '31...Medical Center, Pensacola, Fla. ALR
Heine, Lyman H., '38.....635 N. Main, Fremont, Nebr. ALR
Heine, William Howard, '41
Odd Fellow bldg., Fremont, Nebr. **ALR**
①Heitger, J. D., '05.....Heyburn bldg., Louisville 2, Ky. **OALR**
Held, Albert E., '39, Major (M.C.)....Address Unknown ALR
②Hempstead, Bert E., '20..Mayo Clinic, Rochester, Minn. **ALR**
Henderson, L. E., '30.....129 Clinton, Watertown, N. Y. OP
Hendricks, Louis J., '31...Carew Tower, Cincinnati 2, Ohio OP
Henner, Robert, '37, Capt. (M. C.),
2315 Sheridan rd., Highland Park, Ill. **ALR**
②Hennessey, Wm. W., '20.....333 Essex, Salem, Mass. **OALR**
①Henning, Carl, '08
1752 Massachusetts av. N.W., Washington 6, D. C. **OP**
①Henninger, L. L., '13
65 N. Madison av., Pasadena 1, Calif. **OALR**
Henry, George Arnold, '40,
Medical Arts Bldg., Toronto 5, Ont. Canada **ALR**
Henry, L. L., '43.....595 E. Colorado, Pasadena 1, Calif. **OP**
Henry, Robert T., '42,.....Grady bldg., Colfax, Wash. **OP**
Hensle, Otto S., '40, Major (M.C.),
100 Prospect av., Hackensack, N. J. **ALR**
②Henton, George E., '18
812 S.W. Washington, Portland 5, Ore. **OP**
Henton, George H., '37
812 S. W. Washington st., Portland 5, Ore. **OP**
Herr, Albert H., '37....129 N. Elizabeth st., Lima, Ohio ALR
②Herriman, L. L., '18...Physicians' bldg., Alamosa, Colo. **OALR**
Hersh, Joseph H., '44..57 W. 57th st., New York 19, N.Y. **ALR**
Hert, Cecil Benedict, '40, Major (M.C.)
Killarney, Orange County, Fla. **ALR**
Hertz, William J., '36.....125 N. 8th, Allentown, Pa. **ALR**
Herzig, Arthur J., '41.667 Madison av., New York 21, N. Y. **ALR**
Herzog, Max, '41, Capt. (M.C.),
Mayo General Hospital, Galesburg, Ill. **OP**
①Hess, William L., '04
2018 Fairburn, West Los Angeles 25, Calif. **OALR**
Hetrick, J. A. Werner, '38
667 Madison av., New York 21, N. Y. **ALR**
Hetrick, L. E., '23.....40 E. 61st, New York 21, N. Y. **ALR**
and 260 North av., New Rochelle, N. Y.
①Hetzel, C. C., '06.....Eccles bldg., Ogden, Utah **OALR**
Hewitt, Wright P., '44.51 Brattle st., Cambridge 38, Mass. **ALR**
Hewson, Wm., '31....2031 Locust st., Philadelphia 3, Pa. **ALR**
Hickey, Harold L., '30.....Republic bldg., Denver 2, Colo. **ALR**
Hickman, Warren R., '34...211 Third st., Logansport, Ind. **ALR**
Hicks, Vonnie M., '26....Professional bldg., Raleigh, N. C. **OP**
Hicks, William J., '30.....15 King, Middletown, N. Y. **ALR**
Hicks, William Wynne, '42
202 E. 6th st., Ellensburg, Wash. **ALR**
Higbee, D. R., '27....3245 Fourth av., San Diego 3, Calif. **ALR**
Higgins, R. P., '24.....20 Court, Cortland, N. Y. OALR

Gurtov, John J., '37
1235 Grand Concourse, New York 52, N. Y. **ALR**
Gustafson, Olga Frideberg, '38
185 N. Wabash av., Chicago 1, Ill. **OP**
Guttman, M. Reese, '29.30 N. Michigan av., Chicago 2, Ill. **ALR**
Guy, Loren P., '34.....40 E. 62nd, New York 21, N. Y. **OP**
②**Guyton, B. S.,** '18....512 Van Buren av., Oxford, Miss. **OALR**
Guyton, Jack Smallwood, '41
Johns Hopkins Hospital, Baltimore 5, Md. **OP**
Guzek, Joseph T., '43, Capt. (M.C.), 0-485618,
Address unknown **OP**

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Haas, Louis Richard, '42....Smith Clinic, Pittsburg, Kan. **OALR**
①**Haden, Henry C.,** '13.....1914 Travis, Houston 3, Texas **OP**
Haessler, F. Herbert, '29...Wells bldg., Milwaukee 2, Wis. **OP**
Hagaman, Van Dyke, '34
Lamar Life bldg., Jackson 2, Miss. **ALR**
Hagan, Cornelius E., Jr., '42, Capt. (M.C.),
AAFCH Professional Services, Ft. George Wright, Wash. **ALR**
Hageman, George Ricker, '42
Longmont Hospital, Longmont, Colo. **ALR**
Hagens, Elmer William, '41.80 N. Michigan, Chicago 2, Ill. **ALR**
Haggart, Harry H., '37,
920 Carew Tower, Cincinnati 2, Ohio **ALR**
Hagood, Daniel S., '43
822 First Nat'l Bank bldg., Montgomery 4, Ala. **OP**
Hague, Elliott B., '39.....454 Franklin, Buffalo 2, N. Y. **OP**
Hahn, Wm. H., '30.....15 Lombardy, Newark 2, N. J. **OP**
Hahn, William N., '38
City Nat'l Bank bldg., Omaha 2, Nebr. **OP**
Haik, George M., '43, 812 Maison Blanche bldg.,
New Orleans, La. **OP**
Haines, Henry L., '43, Lt. (M.C.) USNR
Pequot Trail, RFD No. 1, Stonington, Conn. **ALR**
Haire, Paul G., '35.....6 Pleasant, Malden 48, Mass. **OP**
Hale, Arthur S., '28.....Eaton Tower, Detroit 26, Mich. **OALR**
Haley, Paul J. D., '37..333 Winthrop, Medford 55, Mass. **ALR**
Haley, Wm. T., '33.....531 Beacon, Boston 15, Mass. **ALR**
Hall, Alice K., '24.....25 E. Washington, Chicago 2, Ill. **ALR**
Hall, Colby, '42, Capt. (M.C.),
545 S. Hobart Blvd., Los Angeles 5, Calif. **ALR**
Hall, Donald S., '44, Capt. (M.C.),
Street Clinic Library, Crawford & Monroe sts.,
Vicksburg, Miss. **OALR**
Hall, Edwin P., '28.....76 Chestnut, Oneonta, N. Y. **ALR**
①**Hall, G. C.,** '07....139 Sagamore rd., Louisville 7, Ky. **OALR**
Hall, Lawrence H., '39....1520 Oak, So. Pasadena, Calif. **OALR**
Hall, Raymond A., '39
514 Home Sav. & Loan bldg., Youngstown, Ohio **ALR**
Hall, Sobisca S., '34, Empire Bank Bldg., Clarksburg, W. Va. **ALR**
Hallaron, John J., '44, Capt. (M.C.),
3405 St. Charles av., New Orleans, La. **ALR**
Hallberg, Olav Erik, '42.....Mayo Clinic, Rochester, Minn. **ALR**
Hallum, Alton V., '34.....478 Peachtree, Atlanta 3, Ga. **OP**
②**Halsted, Fred S.,** '18
Metropolitan bldg., Denver 2, Colo. **OALR**
Halton, Edward P., '37
1456 Northampton, Holyoke, Mass. **ALR**
Hamilton, Howard Eugene, '42
10515 Carnegie av., Cleveland 6, Ohio **ALR**
Hamilton, Richard G., '40
Medical Arts bldg., Pittsburgh 13, Pa. **ALR**
Hamlin, Fred E., '26..Medical Arts bldg., Roanoke 11, Va. **ALR**
Hammond, Arthur, '35
David Whitney bldg., Detroit 26, Mich. **ALR**
Hampsey, Joseph W., '37....May bldg., Pittsburgh 22, Pa. **ALR**
Hamrick, DeWitt, '40.....601 Jackson, Corinth, Miss. **ALR**
Hanckel, Richard White, Jr., '42
96-A Bull, Charleston 16, S. C. **ALR**
Hancox, Cecil W., '39..Bahr Arcade bldg., Pottstown, Pa. **ALR**
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Hinsdale Sanitarium and Hospital, Hinsdale, Ill. **ALR**
Haralson, Charles H., '29.Medical Arts bldg., Tulsa 3, Okla. **OP**
②**Harbert, John P.,** '19, 135 N. Main, Bellefontaine, Ohio **OALR**
Hardesty, J. F., '22
Missouri Theatre bldg., St. Louis 3, Mo. **OP**
Hardie, G. C., '30....290 W. Michigan av., Jackson, Mich. **OALR**
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Hardy, Guerdan, '38, Comdr. (M.C.),
7460 Stratford av., St. Louis 5, Mo. **OALR**
Hardy, LeGrand H., '28...23 E. 79th, New York 21, N. Y. **OP**
①**Hardy, W. F.,** '14.....Humboldt bldg., St. Louis 3, Mo. **OP**
Hardy, Walter B., '36.2121 Highland, Birmingham 5, Ala. **ALR**
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Harkins, Wm. Blake, '41, Lt. Comdr. USN
Hdqrs. F.M.F. Pacific c/o FPO, San Francisco, Cal. **ALR**
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Box 41, Shalimar, Fla. **ALR**
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Harnick, Israel, '39..1132 Delaware av., Buffalo 9, N. Y. **ALR**
Harrell, Voss, '26.....Hofman bldg., Detroit 1, Mich. **ALR**
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Harrington, Silas Frederick, '42
Medical Arts bldg., Dallas 1, Texas **ALR**
①**Harris, C. M.,** '10.Johnstown Trust bldg., Johnstown, Pa. **OALR**
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Harris, Robin, '23.....964 N. State, Jackson 6, Miss. ALR
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①Haughey, Wilfrid H., '11..Post bldg., Battle Creek, Mich. OALR
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Hauser, Maurice J., '43, Major (MC) 0-337550
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Hawthorne, Allen T., '38
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Hayden, Jerome William, '42
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Hayes, Merrill B., '40.....710 Madison st., Chester, Pa. ALR
Hayes, Robert T., '36....42 Coburg, St. John, N. B., Can. ALR
Hays, Charles E., '39....U. S. Bank bldg., Johnstown, Pa. ALR
Hazen, S. Frank, '39.....231 Chestnut, Meadville, Pa. ALR
①Heard, Mary E., '10
R.F.D. 2. Box 75, St. Petersburg 6, Fla. (Retired) OP
Heare, Louis C., '39.....Box 312, Port Arthur, Texas OP
Hearn, Paul P., '43, Capt. (M.C.),
701 Sheridan, Columbus 4, Ohio ALR
Heath, Parker, '24..David Whitney bldg., Detroit 26, Mich. OP
Hebble, Howard Miller, '40
320 Chester av., Moorestown, N. J. ALR
Hebert, Arthur W., '27..450 Sutter, San Francisco 8, Calif. OALR
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1105 Bank of Lansing bldg., Lansing, Mich. OP
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218 Eastman Bldg., Boise, Idaho OALR
Hedlund, G. O., '36.....616 Mentor av., Painesville, Ohio ALR
②Heeb, Harry J., '18
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①Heed, C. R., '10.....1205 Spruce, Philadelphia 7, Pa. OP
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Heidelman, George, '39
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Heinberg, Charles J., '31...Medical Center, Pensacola, Fla. ALR
Heine, Lyman H., '38.....635 N. Main, Fremont, Nebr. ALR
Heine, William Howard, '41
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Hendricks, Louis J., '31...Carew Tower, Cincinnati 2, Ohio OP
Henner, Robert, '37, Capt. (M. C.),
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①Henning, Carl, '08
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①Henninger, L. L., '13
65 N. Madison av., Pasadena 1, Calif. OALR
Henry, George Arnold, '40,
Medical Arts Bldg., Toronto 5, Ont. Canada ALR
Henry, L. L., '43.....595 E. Colorado, Pasadena 1, Calif. OP
Henry, Robert T., '42,.....Grady bldg., Colfax, Wash. OP
Hensle, Otto S., '40, Major (M.C.),
100 Prospect av., Hackensack, N. J. ALR
②Henton, George E., '18
812 S.W. Washington, Portland 5, Ore. OP
Henton, George H., '37
812 S. W. Washington st., Portland 5, Ore. OP
Herr, Albert H., '37....129 N. Elizabeth st., Lima, Ohio ALR
③Herriman, L. L., '18...Physicians' bldg., Alamosa, Colo. OALR
Hersh, Joseph H., '44..57 W. 57th st., New York 19, N.Y. ALR
Hert, Cecil Benedict, '40, Major (M.C.)
Killarney, Orange County, Fla. ALR
Hertz, William J., '36.....125 N. 8th, Allentown, Pa. ALR
Herzig, Arthur J., '41.667 Madison av., New York 21, N. Y. ALR
Herzog, Max, '41, Capt. (M.C.),
Mayo General Hospital, Galesburg, Ill. OP
①Hess, William L., '04
2018 Fairburn, West Los Angeles 25, Calif. OALR
Hetrick, J. A. Werner, '38
667 Madison av., New York 21, N. Y. ALR
Hetrick, L. E., '23.....40 E. 61st, New York 21, N. Y. ALR
and 260 North av., New Rochelle, N. Y.
①Hetzel, C. C., '06.....Eccles bldg., Ogden, Utah OALR
Hewitt, Wright P., '44..51 Brattle st., Cambridge 38, Mass. ALR
Hewson, Wm., '31....2031 Locust st., Philadelphia 3, Pa. ALR
Hickey, Harold L., '30.....Republic bldg., Denver 2, Colo. ALR
Hickman, Warren R., '34...211 Third st., Logansport, Ind. ALR
Hicks, Vonnie M., '26....Professional bldg., Raleigh, N. C. OP
Hicks, William J., '30.....15 King, Middletown, N. Y. ALR
Hicks, William Wynne, '42
202 E. 6th st., Ellensburg, Wash. ALR
Higbee, D. R., '27....3245 Fourth av., San Diego 3, Calif. ALR
Higgins, R. P., '24.....20 Court, Cortland, N. Y. OALR

①**Higgins, S. G., '11**....411 E. Mason, Milwaukee 2, Wis. **OALR**
High, Clifton E., '35....Combs-Worley bldg., Pampa, Texas **OP**
High, Isaac B., '31.....326 N. 5th, Reading, Pa. **ALR**
Hilding, Anderson C., '31
Medical Arts bldg., Duluth 2, Minn. **OALR**
Hildreth, H. Rommel, '34
Metropolitan bldg., St. Louis 3, Mo. **OP**
Hilgartner, Henry L., Jr., '35, 202 W. 13th St., Austin, Texas **OP**
②**Hill, C. E., '19**.....160 Bloor st. W., Toronto 5, Can. **OP**
Hill, Emerson S., '37.....51 Main, Torrington, Conn. **ALR**
Hill, Frederick T., '28. Professional bldg., Waterville, Maine **ALR**
Hill, Howard E., '39, Lt. Col. (M.C.),
402 W. Jackson st., POB 774, Muncie, Ind. **ALR**
Hill, Howard F., '28.....177 Main, Waterville, Maine **OP**
Hilleman, George A., '40
267 Alexander st., Rochester 7, N. Y. **ALR**
Hillyer, Ernest C., '43
1033 Gayley av., Los Angeles 24, Calif. **OP**
Himelfarb, H. M., '41, Capt. (M.C.),
R. D. No. 4, Chambersburg, Pa. **ALR**
Hinderer, Kenneth H., '39, Major (M.C.), 0-509864,
166th General Hospital, APO 801, c/o PM, New York, N.Y. **ALR**
Hipskind, Myron Maxwell, '40
6060 Drexel av., Chicago 37, Ill. **ALR**
Hirschfelder, Max Kurt, '41....408 W. 2nd, Centralia, Ill. **OP**
Hirschmann, Hans A., '39
1502 Mott av., Far Rockaway, N. Y. **ALR**
Hirst, Otto C., '32.....255 S. 17th, Philadelphia 3, Pa. **ALR**
Hitschler, William J., '39
8840 Germantown av., Philadelphia 18, Pa. **ALR**
Hitz, John B., '34....411 E. Mason st., Milwaukee 2, Wis. **OP**
Ho, Wayne Y. H., '37, Capt. (M.C.), 0534488,
Address unknown **ALR**
Hobart, Carl, '29.....Metropolitan bldg., St. Louis 3, Mo. **OP**
Hochfilzer, John J., '35
Lowry Med. Arts bldg., St. Paul 2, Minn. **ALR**
Hodge, George E., '30....1414 Drummond, Montreal, Can. **ALR**
Hodge, James V., '39.....105 Market, Kingsport, Tenn. **ALR**
②**Hodsdon, B. F., '18**.....P.O. Box 923, Miami 6, Fla. **OALR**
Hoeltgen, Maurice M., '43...1607 W. 51st, Chicago 9, Ill. **OP**
Hoffman, L. G., '27....30 N. Michigan av., Chicago 2, Ill. **OALR**
Hoffman, N. Fulmer, Jr., '43
2126 Spruce st., Philadelphia 3, Pa. **ALR**
③**Hoffman, Walter F., '20**..1317 Marion, Seattle 4, Wash. **OP**
Hoffman, Walter Lees, '39
Medical Arts bldg., Minneapolis 2, Minn. **OP**
Hoffman, William A., '32
30 N. Michigan av., Chicago 2, Ill. **OP**
Hoffmann, John N., '27....405 Brant bldg., Canton 2, Ohio **ALR**
Hofling, Charles A., '29.....707 Race, Cincinnati 2, Ohio **OP**
Hofmann, Albert P., '36.....630 Vine, Cincinnati 2, Ohio **ALR**
Hofmann, W. P., '25.....Kahl bldg., Davenport, Iowa **OALR**
Hogan, Chester F., '41.....62 Main st., Houlton, Maine **ALR**
Hogan, W. L., '24.....750 Main, Hartford 3, Conn. **OP**
Hogsett, Smith Fuller, Jr., '42, Lt. Comdr. (M.C.),
2700 30th st., S.E., Washington 20, D. C. **OP**
①**Hogshead, J. M., '12**
602 Georgia av., Chattanooga 3, Tenn. **OALR**
①**Hogue, D. W., '08**.....34 W. High, Springfield, Ohio **OALR**
①**Hohf, Julius A., '15**.....Clinic bldg., Yankton, S. D. **OALR**
Hoitash, Frederick J., '44
P. O. Box 1066, Huntington 13, W. Va. **OP**
Holcombe, Virgil Eugene, '40
Medical Arts bldg., Charleston 1, W. Va. **ALR**
Holden, Harold M., '36
3875 Wilshire blvd., Los Angeles 5, Calif. **ALR**
Holden, Wm. H., '39.....755 Park av., New York, N.Y. **ALR**
Holding, Bruce F., '36.....Bell bldg., Montgomery 4, Ala. **ALR**
Holinger, Paul H., '37..700 N. Michigan, Chicago 11, Ill. **L**
Hollabaugh, Charles F., '38,
414 Doctors bldg., Nashville 3, Tenn. **OP**
Holland, Emory E., '33..1907 E. Main st., Richmond, Ind. **OP**
Holland, John Gill, '41.....725 Church, Lynchburg, Va. **ALR**
Hollender, Abraham R., '31,
605 Lincoln rd., Miami Beach, Fla. **ALR**
Holloway, J. Minor, '32
1200 Prince Edward, Fredericksburg, Va. **ALR**
Hollowell, Frederick Dixon, '40, Lt. Comdr. (M.C.),
U. S. Fleet Hosp. 114, F. P. O., San Francisco, Calif. **ALR**
Holmen, Robert W., '43
Lowry Medical Arts bldg., St. Paul 2, Minn. **ALR**
Holmes, Edgar M., '36..330 Dartmouth, Boston 16, Mass. **ALR**
Holmes, Will W., '35.....R. D. No. 4, Logansport, Ind. **ALR**
Holohan, Joseph L., '37.....330 State, Albany 6, N. Y. **ALR**
Holstein, Theodore, '42
1800 Suttervillie rd., Sacramento, Calif. **OP**
①**Holt, E. Eugene, Jr., '12**. 723 Congress, Portland 4, Maine **OP**
Holt, Helen, '43.....720 N. Michigan av., Chicago 11, Ill. **OP**
Holzberger, John C., '32
7005 Freshpond, Brooklyn 27, N. Y. **ALR**
Holzer, Wm. F., '31.....36 Pleasant, Worcester 8, Mass. **OP**
Hombach, Frank Joseph, '38
1421 State, Santa Barbara, Calif. **OP**
①**Hompes, J. J., '15**.....Sharp bldg., Lincoln 8, Nebr. **OALR**
Honiss, John R., '37....277 Alexander, Rochester 7, N. Y. **ALR**
Hooker, James F., '39, Capt. (M.C.), USN,
Office of Post Surgeon, Quantico, Va. **ALR**
Hoople, Gordon D., '29..Medical Arts bldg., Syracuse, N.Y. **ALR**
Hooss, C. H. A., '30
2333 S. Grand blvd., St. Louis 4, Mo. **OP**
Hooval, J. H., '41.....213 Fallis bldg., Ontario, Calif. **ALR**
Hoover, Walter B., '34
605 Commonwealth, Boston 15, Mass. **ALR**
Hope, Robert M., '37.108 Rutledge av., Charleston 16. S.C. **ALR**
Hopkins, G. H., '30.....702 N. Main, Pueblo, Colo. **OP**
Hopp, Eugene S., '44
2547 Chestnut st., San Francisco 23, Calif. **ALR**
Hornback, George A., '35....500 Broadway, Hannibal, Mo. **ALR**
Hornbogen, Daniel Powell, '41
401 Savings Bank bldg., Marquette, Mich. **OP**
Horner, Warren D., '35, 490 Post st., San Francisco 2, Calif. **OP**
Hory, Joseph S., '39
2488 Grand Concourse, New York 58, N. Y. **OP**
Hotchkiss, Walter T., '31
541 Lincoln rd., Miami Beach 39, Fla. **ALR**
Houlahan, James M., '36, 117 S. 2nd av., Mt. Vernon, N. Y.
and 653 Park av., New York 21, N. Y. **OP**
House, Howard Payne, '41,
1136 W. 6th st., Los Angeles 14, Calif. **ALR**
House, Hugh O., '38
1835 Eye st. N.W., Washington 6, D. C. **ALR**
House, Leland Richmond, '40
1727 New Jersey st., Los Angeles 33, Calif. **ALR**
Houser, Ben P., '42.....458 E. Broad St., Tamaqua, Pa. **ALR**
Houser, Karl M., '34...2035 Delancey, Philadelphia 3, Pa. **ALR**
Howard, Harvey J., '28. Park Plaza Hotel, St. Louis 8, Mo. **OP**
Howard, Henry Sargent, '43, Lt. (M.C.) USNR,
Fleet Hospital No. 114, F. P. O., San Francisco, Calif. **ALR**
①**Howard, J. W., '12, (Retired),**
Residence 6026 McGee, Kansas City 2, Mo. **OALR**

Howard, John C., Jr., '42,
1408 Professional bldg., Kansas City, Mo. ALR
Howard, Lloyd G., '23....Park bldg., Council Bluffs, Iowa OALR
Howard, Robert E., '31
Union Central bldg., Cincinnati 2, Ohio ALR
Howard, William H., '23
3949 Portland av., Minneapolis 7, Minn. OALR
Howard, William H., '37
9152 Commercial av., Chicago 17, Ill. OP
Howard, William M., '38.389 Linwood av., Buffalo 9, N. Y. OP
Howarth, Ervin McIntyre, '40
705 Main st., Santa Paula, Calif. ALR
②Howe, A. W., '20..Medical Arts bldg., Tacoma 2, Wash. OALR
Howell, Donald M., '31, Wiechmann bldg., Saginaw, Mich. ALR
Howell, Homer P., '42, 3022 E. 14th St., Oakkland 1, Calif. OP
Howell, Stacy C., '39
478 Peachtree st. N.E., Atlanta 3, Ga. OP
Howland, Alvin Wilcox, '39, Major (M.C.),
3310 Fairmount av., Atlantic City, N. J. OP
Hoxie, Derrick, '43, Comdr. (M.C.), Address unknown. ALR
Hubbard, Wm. B., '31..302 Paterson bldg., Flint 3, Mich. OALR
Hubble, William Fields, '42.Citizens bldg., Decatur 30, Ill. ALR
Huber, Walter A., '32...Medical Arts bldg., Tulsa 3, Okla. OP
Hudock, John Paul, '41
Long Island College Hosp., Brooklyn, N.Y. ALR
Huggins, Harrison D., '44
12 Whipps bldg., Kalispell, Mont. ALR
Hughes, L. W., '25.....965 Broad, Newark 7, N. J. OP
Hughes, Ray W., '28
303 N. Lakeside Drive, Lake Worth, Fla. OALR
②Hughes, T. E., '21....1000 W. Grace, Richmond 20, Va. ALR
①Hughes, W. F., '11
401 Hume-Mansur bldg., Indianapolis 4, Ind. OP
Hughes, Wendell L., '29
Professional bldg., Hempstead, N. Y. OP-PI S
Hughes, William F. Jr., '43
1916 McElderry st., Baltimore 5, Md. OP
Hughes, William Lauch, '40..Lamar bldg., Jackson 2, Miss. ALR
Hulka, J. H., '34, 30-28 36 st., Long Island City 3, N. Y. OALR
Hull, Allen, '35.....401 76th, Brooklyn 9, N. Y. OP
Hunnicutt, Leland G., '38
275 S. Holliston av., Pasadena 5, Calif. ALR
Hunt, Guy A., '36..Butler Co. Nat'l Bk. bldg., Butler, Pa. OP
Hunt, Thomas Ewell, '39
First Nat'l Bank bldg., Paris, Texas ALR
Hunt, Westley M., '29..907 Fifth av., New York 21, N. Y. ALR
Hunt, Wm. Remfry, '38
943 Jimeno rd., Santa Barbara, Calif. ALR
Hunt, Wm. T., Jr., '34.....514 Penn, Huntingdon, Pa. OALR
Hunter, J. F., '30.....503 Penn av., Turtle Creek, Pa. ALR
Hunter, Robert John, '30,
928 N. 63rd st., Philadelphia 31, Pa. ALR
Hurd, Allan C., '40, Comdr. (M.C.), USNR,
831 Shirley st., Winthrop 52, Mass. ALR
Hurd, Fritz D., '39.Medical Arts bldg., Great Falls, Mont. ALR
②Hurff, J. Wallace, '19.....671 Broad, Newark 2, N. J. OALR
Hurst, V. Reeves, '22.....Hurst Clinic, Longview, Texas OALR
Hurwitz, Paul, '43, Suite 1532 Field Annex bldg.,
25 E. Washington st., Chicago 2, Ill. OP
②Husik, D. N., '21.....1820 Spruce, Philadelphia 3, Pa. ALR
Huston, Marshall D., '44, Capt. (M.C.),
Army and Navy Gen. Hosp., Hot Springs, Ark. ALR
Hutcherson, John Kenneth, '41
Francis bldg., Louisville 2, Ky. OP
Hutchinson, Abbott T., '28
4086 Roynolds av., Coconut Grove, Fla. ALR
Hutchinson, Ben B., '38, Capt. (M.C.),
Lubbock Memorial Hospital, Lubbock, Texas OP
Hutchison, K. O., '30
1509 Sherbrooke st. W., Montreal, Can. ALR
Hutchison, Lloyd S., '42..235 Lancaster av., Lancaster, Pa. ALR
Hyman, Morris, '36, Capt. (M.C.), 0-335504,
1139 Towanda Terrace, Cincinnati 16, Ohio ALR
Hymes, Charles, '39
Medical Arts bldg., Minneapolis 2, Minn. OP
Hynes, Frank Joseph, '41.121 E. 60th, New York 22, N. Y. ALR

I

Ide, David, '39.1749 Grand Concourse, New York 53, N. Y. ALR
①Imperatori, C. J., '11.108 E. 38th, New York 16, N. Y. ALR
Ingalls, Raymond G., '41, Institute of Oph., Presbyterian Hosp.,
635 W. 165th st., New York, N.Y. OP
①Ingersoll, J. M., '08
1700 S. Bayshore Lane, Miami 33, Fla. ALR
①Inglis, Harry J., '14.43 Bay State rd., Boston 15, Mass. ALR
Ingram, Hollis Carlyle, '40, 303 Exchange bldg., Orlando, Fla. OP
Insel, Herman Herbert, '42
770 Fidelity Medical Bldg., Dayton 2, Ohio OALR
Ireland, Percy E., '36, Lt. Col. (RCAMC), Office of D.M.S.,
Canadian Military Hdqrs., Canadian Army Overseas, London, England ALR
Irgens, Edwin R., '38, Major (M.C.), 0-226759
369th Sta. Hosp., APO 244 c/o P.M. San Francisco, Calif. ALR
②Irvine, A. Ray, '18, 9730 Wilshire blvd., Beverly Hills, Cal. OP
Irvine, Robert S., '29...490 Post, San Francisco 2, Calif. OALR
Irvine, S. Rodman, '38
9730 Wilshire blvd., Beverly Hills, Calif. OP
Irwin, John Joseph, '42
Baronne bldg., New Orleans 12, La. ALR
Irwin, Thomas M., '42
Medical Arts bldg., Park st., Jacksonville, Fla. ALR
②Irwin, Vincent J. Jr., '20
1634 Main, Springfield 3, Mass. OALR
Irwin, Willard J., '42, Capt. (M.C.), 0-1696567,
Address Unknown ALR
Isbell, D., '40.....552 McCallie av., Chattanooga 3, Tenn. ALR
Isbell, Euclid A., '43.....948 Forrest av., Gadsden, Ala. ALR
Ivins, William Clifford, '40.455 W. State, Trenton 8, N. J. ALR
Ivy, Robert H., '34.1930 Chestnut, Philadelphia 3, Pa. ALR-PI S

J

Jackson, Atras E., '28
Medical Arts bldg., Ft. Worth 2, Texas OP
①Jackson, Chevalier, '04..255 S. 17th, Philadelphia 3, Pa. L
Jackson, Chevalier L., '34.255 S. 17th, Philadelphia 3, Pa. L
Jackson, Clarence C. R., '37
2065 Adelbert Road, Cleveland 6, Ohio ALR
②Jackson, J. D., '19.....232 W. 8th, Erie, Pa. OALR
Jackson, Rufus, '37
Louisiana Nat'l Bank bldg., Baton Rouge 6, La. ALR
Jacobius, Lawrence, '39.23 W. 73rd, New York 23, N. Y. ALR
Jacobs, Clyde Hillock, '41
Geisinger Memorial Hospital, Danville, Pa. OP
Jacobs, Milton, '33....122 S. Michigan av., Chicago 3, Ill. OP
①Jacobs, S. M., '13.....15 W. 81st, New York 24, N. Y. OALR
Jacoby, Mark W., '33.....Hanna bldg., Cleveland 15, Ohio OP

Jaffe, Benjamin, '39, Major (M.C.),
Wm. Beaumont General Hosp., El Paso, Texas **OP**

Jaffe, Morris, '42
940 Grand Concourse, New York 56, N. Y. **OP**

James, George R., '37
Wyoming Nat'l Bank bldg., Casper, Wyo. **OP**

James, James E., '44
128 W. Fourth st., Bethlehem, Pa. **ALR**

James, Voyle, '40
6253 Hollywood blvd., Hollywood 28,Calif. **ALR**

James, Wm. M., '31...508 N. Grand av., St. Louis 3, Mo. **OP**

Jamison, Edgar L., '41.....19 Louisa av., Greenville, Pa. **ALR**

Janse, Hector M., '37.....3717 Main, Houston 4, Texas **ALR**

Jarrott, James T., '43...131 Fulton av., Hempstead, N. Y. **OP**

Jarvis, DeForest C., '29....Quarry Bank bldg., Barre, Vt. **ALR**

①**Jean, George W., '22**.....address unknown **OP**

Jellis, Walter, '41, Comdr. (M.C.), USNR,
71 College av., W. Somerville 44, Mass. **ALR**

Jenkins, Albert H., '39, Lt. Col.,
2749 W. Arthur av., Chicago, Ill. **ALR**

Jennings, Charles W., '31
121 University pl., Pittsburgh 13, Pa. **OP**

Jensen, August Frithiof, '40
1119 Cottonwood st., Grand Forks, N. D. **OP**

Jensen, Carl Dana, '39,
1315 Medical & Dental Bldg., Seattle 1, Wash. **OP**

Jerome, Bourne, '43
4123 Wentworth av. S., Minneapolis, Minn. **OP**

Jesberg, Simon, '32
500 S. Lucas av., Los Angeles 13, Calif. **ALR**

Jessel, Erwin, '42, Capt. (M.C.),
c/o Mrs. E. Jessel, 156 E. 178th st., New York 53, N.Y. **OP**

①**Jobson, G. B., '08,**
West Park and Liberty, Franklin, Pa..**OALR-PIS**

Johns, Juanita Pearl, '33
313 Commonwealth av., Boston 15, Mass. **OP**

Johnson, Charles I., '39
403 Commonwealth av., Boston, Mass. **ALR**

Johnson, David M., '32, 327 E. State St., Columbus, Ohio **ALR**

Johnson, Don, '39.1835 Eye st. N.W., Washington 6, D. C. ALR

Johnson, Ernest D., '38....317 W. Main, Alhambra, Calif. **OALR**

Johnson, Fordyce A. H., '44, Maj. (M.C.),
Pasadena Regional Hosp., Pasadena 2, Calif. **ALR**

Johnson, Gayle T., '39, Major (M.C.) 0-482051, Station Hosp.
APO 953, c/o Postmaster, San Francisco, Calif. **ALR**

①**Johnson, H. R., '13**.....320 Jefferson, Fairmont, W. Va. **OALR**

Johnson, Henrietta M., '32
595 E. Colorado, Pasadena 1, Calif. **OP**

Johnson, Henry P., '35.....32 Deering, Portland 3, Maine **ALR**

Johnson, Leighton F., '37
29 Bay State road, Boston 15, Mass. **ALR**

Johnson, Lorand V., '38
10515 Carnegie, Cleveland 6, Ohio **OP**

Johnson, Malcolm R., '41
645 Medical Arts bldg., Minneapolis 2, Minn. **ALR**

Johnson, Thomas H., '23..30 W. 59th, New York 19, N. Y. **OP**

Johnston, Hewitt, '36...303 Exchange bldg., Orlando, Fla. **ALR**

Johnston, James Gilliam, '39
1520 E. Fourth, Charlotte 4, N. C. **OP**

Johnston, Kenneth B., '32
1509 Sherbrooke st. W., Montreal, Can. **OP**

①**Johnston, W. H., '12**..1515 State, Santa Barbara, Calif. **OALR**

Johnston, William Raby, '42
1515 State st., Santa Barbara, Calif. **ALR**

Joinville, Euclide V., '38...Stroh bldg., Detroit 26, Mich. **ALR**

Jones, Arthur C., '44....518 Eastman bldg., Boise, Idaho **ALR**

Jones, Cecil Cain, '28.Equitable bldg., Des Moines 9, Iowa OALR

Jones, David E., '38
Chamber of Commerce, Indianapolis 4, Ind. **ALR**

Jones, David H., '35.....140 E. 54th, New York 22, N. Y. **LR**

Jones, Edley H., '28...1301 Washington, Vicksburg, Miss. **OALR**

Jones, Edmund L., '26..Wheeling Clinic, Wheeling, W. Va. **OALR**

Jones, Edward Earl, '40
141 West Elm st., Brockton 8, Mass. **ALR**

①**Jones, Elgin W., '13**.....44 Atlanta, Lynn, Mass. **OP A**

Jones, Emmett L., Jr., '44, Maj. (MC)
Regional Station Hosp., Barksdale Field, La. **ALR**

②**Jones, F. W., '19**.....101 E. Broadway, Alton, Ill. **OALR**

Jones, Florentine B., '39.....416 S. 17th, Mattoon, Ill. **ALR**

Jones, Fred G., '36.....258 Genesee, Utica 2, N. Y. **ALR**

Jones, Leonard W., '25.16 N. Goodman, Rochester 7, N. Y. OALR

Jones, Lester T., '37...1020 S. W. Taylor, Portland 5, Ore. **OALR**

Jones, M. F., '30.....121 E. 60th, New York 22, N. Y. **ALR**

Jones, U. G., '27....Market & Boone, Johnson City, Tenn. **ALR**

Jones, Vincent L., '28
Missouri Theatre bldg., St. Louis 3, Mo. **OALR**

Jones, W. Yerby, '43.....436 Sycamore, Buffalo 4, N. Y. **OP**

Jones William M., '44....5254 Michigan av., Chicago, Ill. **OP**

Jones, William S., '27
521 Sheridan road, Menominee, Mich. **OALR**

②**Jordan, George T., '21**..215 Court st., Vermillion, S. D. **OALR**

Jordan, James Shannon, '40
Medical Arts bldg., Scranton 3, Pa. **OP**

Jordan, Lewis W., '41.Medical Arts bldg., Portland 5, Ore. **ALR**

Jordan, Philip J., '43
910 Medico-Dental bldg., San Jose 20, Calif. **ALR**

Joseph, Nime K., '44.....40-14th st., Wheeling, W. Va. **ALR**

Joy, Harold H., '26..State Tower bldg., Syracuse 2, N. Y. **OP**

Joyce, Wm. M., '36.....121 Main st., Middletown, Conn. **ALR**

Joynt, A. J., '24.....525 Sycamore, Waterloo, Iowa **OALR**

Joynt, M. J., '30.....Royal bldg., Le Mars, Iowa **ALR**

Judd, Delbert K., '35....420 Arcade bldg., Kankakee, Ill. **ALR**

②**Judd, H. B., '17**.....40 E. 61st, New York 21, N. Y. **ALR**

Judd, J. H., '30.....Medical Arts bldg., Omaha 2, Nebr. **OP**

②**Judge, Harry V., '20**.....46 Willett, Albany 6, N.Y. **OP**

Judge, Thomas A., '37...735 N. Water, Milwaukee 2, Wis. **ALR**

Juers, Arthur L., '37..122 S. Michigan av., Chicago 3, Ill. **ALR**

K

Kafka, M. Martyn, '40
109-05 72nd av., Forest Hills, L. I., N. Y. **ALR**

Kahn, Kenneth Myer, '40, Lt. Col. (M.C.), Halloran
General Hospital, Staten Island, N. Y. **ALR**

Kaiser, Robert F., '44....1400 Iron St., Bellingham, Wash. **ALR**

Kammerling, Theo. S., '32.616 N. Central, Chicago 44, Ill. OALR

Kane, J. T., '37.88-49—163rd st., Jamaica 3, L. I., N. Y. ALR

Kaplan, Carl, '37....69-17 Forest av., Brooklyn 27, N. Y. **ALR**

Kaplan, Leon, '42..881 Lafayette st., Bridgeport 4, Conn. **OP**

Kaplan, Samuel, '35, Maj. (MC)
121st General Hosp., APO 751, c/o PM, New York, N. Y. **ALR**

Kapp, Carl G., '35.440 Westminster av., Elizabeth 3, N. J. ALR

Kapp, Henry, '36.....50 Merrimack, Haverhill, Mass. **ALR**

Karkeet, Robert B., '28.833 S.W. 11th av., Portland 5, Ore. ALR

Kasnetz, Joseph P., '39
678 Eastern Parkway, Brooklyn 13, N. Y. **ALR**

Kasper, Kelvin Anthony, '38
135 S. 18th, Philadelphia 3, Pa. **ALR**

Katz, Dewey, '37.....99 Pratt, Hartford 3, Conn. **OP**

Katz, Harry Kolman, '42
1206 Cottman st., Philadelphia 11, Pa. OP
Katz, I. H., '41.....713 E. Genesee, Syracuse, N. Y. OP
Kauffman, A. B., '22.....Chimes bldg., Syracuse 2, N. Y. ALR
Kauffman, M. Luther, '38
Medical Arts bldg., Jenkintown, Pa. OP
②Kaufman, A. Spencer, '17
1923 Spruce, Philadelphia 3, Pa. ALR
Kaufman, Maxwell, '40.....85 Maujer, Brooklyn 6, N. Y. ALR
Kaufman, Samuel I., '41.185 N. Wabash av., Chicago 1, Ill. OP
Kayser, Reuben, '39
442 Bay Ridge Parkway, 75th st., Brooklyn 9, N. Y. ALR
Kazanjian, V. H., '33
475 Commonwealth av., Boston 15, Mass. LR-PI S
Kearney, Harold L., '37
1403 Delachaise, New Orleans 15, La. ALR
Kearny, R. A., '32
2311 Connecticut av. N.W., Washington 8, D. C. ALR
Keating, T. F., '27.....Maccabee bldg., Detroit 2, Mich. OALR
Keefe, William J., '29
205 E. Sidney av., Mt. Vernon, N. Y. OALR
Keeler, Lansing H., '34..89-04—148th, Jamaica 2, N. Y. OALR
Keeler, Nelson S., '39....411 Thirtieth, Oakland 9, Calif. ALR
Keil, Frank C., '39..660 Madison av., New York 21, N. Y. OALR
Keil, Peter A., '36.118 Pennsylvania av., Brooklyn 7, N. Y. ALR
Keiper, G. F., Jr., '30.....113 N. Church, Visalia, Calif. ALR
①Keith, W. E., '16.Professional bldg., Kansas City 6, Mo. OALR
②Keller, S. A., '20,
303 S. Minnesota av., Sioux Falls, S. D. OALR
Kelley, Isaac D., Jr., '28..1226 Olive St., St. Louis 3, Mo. ALR
Kelley, Samuel F., '44....47 E. 61st st., New York, N.Y. ALR
Kelley, Vincent J., '33
520 Commonwealth av., Boston 15, Mass. ALR
Kelly, Geo. F. J., '34.....37 S. 20th, Philadelphia 3, Pa. OP
Kelly, Joseph D., '28
140 E. 54th, New York 22, N. Y. OALR-PI S
Kelly, Vincent J., '44, Capt. (M.C.),
Station Hosp., Ellington Field, Texas OALR
Kemler, Joseph I., '22.1908 Eutaw pl., Baltimore 17, Md. OALR
Kemp, Roy C., '38.....343 State, Albany 6, N. Y. ALR
Kend, Lee, '32.....133 E. 58th, New York 22, N. Y. ALR
Kennedy, Eldred W., '28
Gas & Electric bldg., Rochester 4, N. Y. OP
Kennedy, Francis L., '43
Missouri Theatre bldg., St. Louis 3, Mo. ALR
Kennedy, Patrick James, '40
6910 Market st., Upper Darby, Pa. OP
Kennedy, Roscoe J., '39
2020 E. 93d, c/o Cleveland Clinic, Cleveland 6, Ohio OP
Kennedy, Wm. A., '36....372 St. Peter, St. Paul 2, Minn. OP
Kenyon, Byron B. '42...44 Pondfield rd., Bronxville, N. Y. ALR
Kerns, Thomas C., '41....1110 West Main, Durham, N. C. ALR
Kershner, C. M., '43....Watson Clinic, Brookings, S. Dak. OP..
Kershner, W. E., '34.....117 Front st., Bath, Maine OALR
Kerst, John Arthur, '42
c/o W. K. Eberly, 1444 Lake Shore Dr., Chicago, Ill OP
Kerwin, Raymond W., '38
310 S. Michigan av., Chicago 4, Ill. OALR
Keskey, George I., '44.....Rose bldg., Marquette, Mich. ALR
Kessler, Mana, '38.....311 Center av., Bay City, Mich. ALR
Kettelkamp, Fred O., '26
Ferguson bldg., Colorado Springs, Colo. ALR
Key, Samuel N., '26
505 Capital Nat'l Bank bldg., Austin 16, Tex. OALR
Keyes, John E. L., '33, Lt. Col. (M.C.),
22199 McCauley Rd., Shaker Heights 22, Cleveland, Ohio OP
Keyton, John A., '34.....304 N. Oates, Dothan, Ala. ALR
①Kiehle, Frederick A., '15
1020 Southwest Taylor, Portland 5, Ore. OP
Kieler, Charles B., '44..M. I. B. Hosp., Cooperstown, N.Y. ALR
Kilbourne, P. H., '24
Fidelity Medical bldg., Dayton 2, Ohio OALR
Kilgore, George L., '35
205 Medico-Dental bldg., San Diego 1, Cal. OP
Kimata, Harold T., '43, Capt. (M.C.), 0-372955,
address unknown ALR
Kimbrig, Max, '40.....20 High st., Huntington, N. Y. ALR
①Kincaid, J. H., '03
421 West Church av., Knoxville 42, Tenn. OALR
Kincannon, LeRoy T., '28,
2300 Highland Ave., Birmingham 5, Ala. OALR
King, Charles M., Jr., '44
809 Madison Ave., Suite 116, Memphis, Tenn. OP
②King, Charles R., '20.....Spitzer bldg., Toledo 4, Ohio OALR
King, Claire B., '37...1926 Market av. N., Canton, Ohio OP
②King, Edward, '21, 6777 Hollywood Blvd.,
Hollywood 28, Calif. ALR
King, George L., '29 537 E. Market St., Alliance, Ohio OP
King, Lowell W., '33.....470 E. State, Salem, Ohio ALR
①King, O. H., '16, Medical Arts Bldg., Hot Springs, Ark. OALR
King, Raymond H., '44....3690 Hershel, Jacksonville, Fla. ALR
King, Walter F., '38...519 Delaware av., Buffalo 2, N. Y. OP
Kingston, Louis C., '44, Capt. (M.C.),
1213th S.C.S.U., Lake Placid Club, N. Y. ALR
Kinkade, Joseph M., '38
359 E. Manchester blvd., Inglewood, Calif. ALR
Kinney, Charles Ed., '34
10515 Carnegie av., Cleveland 6, Ohio ALR
Kirby, D. B., '24....780 Park av., New York 21, N. Y. OP-PI S
Kirch, Walter, '43, Lt. Comdr. (M.C.)
U. S. Naval Hospital, Astoria, Ore. ALR
Kirkbright, James C., '35..40 E. 61st, New York 21, N. Y. ALR
Kirkpatrick, Hazen L., '37, Capt. (MC)
Station Hosp., Hamilton Field, Calif. ALR
③Kirkpatrick, Henry, '24, Lt. Col.,
54 Welbeck st., W. 1, London, Eng.
②Kistner, F. B., '18.....Mayer bldg., Portland 5, Ore. ALR
Klawans, Harold L., '43, Major (M.C.)
20 E. Jackson blvd., Chicago, 4, Ill. ALR
Kleiman, Bernard S., '44, Capt. (M.C.)
3318 Bancroft Rd., Baltimore, Md. ALR
Kleinert, Margaret N., '29
23 Bay State Road, Boston 15, Mass. ALR
Kleinfeld, Louis, '36..100 E. 74th st., New York 21, N.Y. ALR
Kler, Joseph H., '37
151 Livingston av., New Brunswick, N. J. ALR
Klien, Bertha A., '38
58 E. Washington, Sec. 2, Chicago 2, Ill. OP
①Kline, H. G., '12...State Tower bldg., Syracuse 2, N. Y. ALR
Kline, O. R., '30.....514 Cooper, Camden, N. J. ALR
②Klingner, Thomas O., '20
Medical Arts bldg., Springfield, Mo. OALR
Klotz, Wm. F., '38, c/o Van Court Rental Agency
222 Comm. Title bldg., Memphis, Tenn. ALR
Kluever, Herman C., '36, Lt. Comdr. (MC)
321 N. 18th, Ft. Dodge, Ia. OP
①Knapp, Arnold, '08.....10 E. 54th, New York 22, N. Y.OP
Knapp, Arthur Alexander, '33
112 E. 73rd St., New York, N. Y. OP
Knapp, F. N., '25....Medical Arts bldg., Duluth 2, Minn. OP

Knauer, Wm. J., '30...Buckman bldg., Jacksonville 2, Fla. OALR
Knight, Granville F., '37
Medical Centre bldg., White Plains, N. Y. ALR
Knight, John S., '32, Comdr. (MC) USNR
U. S. Naval Hosp., Great Lakes, Ill. **ALR**
Knighton, Willis S., '31..121 E. 61st, New York 21, N. Y. OP
Knisely, Alan DeG., '38..722 Nat'l Bank bldg., Lima, Ohio **ALR**
Knopf, Saul, '37.....30 E. 40th, New York 16, N. Y. ALR
Knowles, W. Mood, '39.Medical Arts bldg., Dallas 1, Texas ALR
Knowlton, Don S., '39, Capt. (M.C.) Hdqrs., Office of Div. Surg., 6th Marine Division, c/o FPO, San Francisco, Calif. **ALR**
Knudsen, Arnold F., '44
419 Bay Ridge Parkway, Brooklyn 9, N.Y. **ALR**
Kobrak, Heinrick G., '38, Capt. (M.C.),
Fort Mason, San Francisco, Calif. **ALR**
Koch, Ferdinand L. P., '40,
60 East 75th st., New York 21, N.Y. **OP**
Koch, Harold J., '43..6235 S. Kedzie av., Chicago 29, Ill. OP
Koebbe, E. E., '29.....Columbus, Nebr. **ALR**
Koenig, Ivan J., '28.....40 W. North st., Buffalo 2, N. Y. **OP**
Kogut, Lewis V., '41, Capt. (MC)
1583rd SCU, 2015 S. Penn, Indianapolis, Ind. **OP**
Koke, Martin P., '44.....233 A. st., San Diego, Calif. **OP**
Koller, H. M., '36. Medical Arts bldg., Minneapolis 2, Minn. **OP**
Koller, Louis R., '32
Medical Arts bldg., Minneapolis 2, Minn. **ALR**
①Kopetzky, Samuel J., '08, Col. (M.C.),
71 East 80th, New York 21, N. Y. **ALR**
Kopp, Mortimer M., '42.79 Argyle rd., Brooklyn 18, N. Y. ALR
Kornberg, Maurice, '38
235 E. 22nd st., New York 10, N.Y. **ALR**
Kornzweig, Abraham L., '37
1200 **Fifth av.,** New York 29, N. Y. **OP**
Kos, Clair M., '43.....534 29th, Des Moines, Ia. **ALR**
①Kraft, Oscar H., '12
1518 N. Dearborn parkway, Chicago 10, Ill. **OP**
Krall, J. Thomas, '42, Major (M.C.)
134 Lansdowne St., Lansdowne, Pa. **OP**
Kramer, Julius C., '34...409 Columbus av., Sandusky, Ohio ALR
Krause, Arlington C., '37...950 E. 59th, Chicago 37, Ill. OP
Kravitz, Daniel, '40...861 Park place, Brooklyn 16, N. Y. OP
Kreag, Karl A., '39....167 Joralemon, Brooklyn 2, N. Y. ALR
①Krebs, Adolph, '13.....500 Penn av., Pittsburgh 22, Pa. **OP**
Kremen, Abraham, '41, Capt. (M.C.),
2355 Eutaw Place, Baltimore 17, Md. **OP**
②Kress, George H., '18
Apt. 506, 2200 Leavenworth st., San Francisco 11, Calif. **OALR**
Krewson, William Egbert, 3rd, '40
1930 Chestnut st., Philadelphia 3, Pa. **OP**
Krieger, Alexander A., '43
4101 Jenkins Arcade, Pittsburgh 22, Pa. **OP**
①Krieger, Geo. M., '10,
701 Washington, Michigan City, Ind. **OALR**
Krimsky, Emanuel, '32...745 Eastern Pkwy., Brooklyn, N.Y. **OP**
Krimsky, Joseph, '28, 1618 Oxford Rd., Charlottesville, Va. **OALR**
Krone, William Frank, '42
31 Lincoln Park, Newark 2, N. J. **ALR**
Kronenberg, Bernard, '40
737 Park av., New York 21, N.Y. **OP**
Kronfeld, Peter C., '31.....904 W. Adams, Chicago 7, Ill. **OP**
①Krug, Ernest F., '08..988 Fifth av., New York 21, N. Y. OP
Kruskal, I. D., '25...101 Lafayette av., Brooklyn 17, N. Y. OP
Krystaf, Joseph G., '37
1004 Fillmore av., Buffalo 11, N. Y. **ALR**
Kuhn, H. S., '30.....112 Rimbach, Hammond, Ind. **OP**
Kuhn, Hugh A., '28.....112 Rimbach, Hammond, Ind. **OALR**
Kully, B. M., '22.3875 Wilshire blvd., Los Angeles 5, Calif. **ALR**
Kully, Herman E., '35. Medical Arts bldg., Omaha 2, Nebr. **ALR**
Kulvin, Max M., '31, 5110 Kenwood av., Chicago 15, Ill. **OALR**
Kundert, Fred W., '38...The Monroe Clinic, Monroe, Wis. **ALR**
Kupp, John H., '44.....582 Delaware av., Palmerton, Pa. **ALR**
Kuritzky, Isadore, '40
1480 Nostrand av., Brooklyn 26, N. Y. **ALR**
Kutscher, Charles F., '44
520 Medical Arts bldg., Pittsburgh 13, Pa. **OP**

L

Lachman, George S., '37, Lt. Comdr. (MC)
2201 Broadway, San Francisco, Calif. **OP**
LaClair, Charles Huston, Jr., '40, Lt. Col. (M.C.)
Regional Hosp. No. 2, Ft. Bragg, N. C. **ALR**
Laff, H. I., '30.....Metropolitan bldg., Denver 2, Colo. **ALR**
①La Force, E. F., '08
Iowa State Bank bldg., Burlington, Iowa **OALR**
LaGattuta, Frank, '40
2488 Grand Concourse, Bronx 58, N. Y. **OP**
Laird, Archibald, '39.....12 Main, Wellsboro, Pa. **OP**
Laird, Robert G., '32.114 E. Fulton, Grand Rapids 2, Mich. OP
Lamb, Harry H., '29.....220 Main, Davenport, Iowa **ALR**
①Lamb, R. S., '06, Stoneleigh court, Washington 6, D. C. **OP**
Lamberson, Frank Abrom, '42
19600 Grand River, Detroit 23, Mich. **ALR**
Lamberson, Wm. H., '37
1st Nat'l Bank bldg., Colorado Springs, Colo. **ALR**
Lambert, Robert K., '32,
1010 Fifth av., New York 28, N. Y. **OP**
LaMotte, Wm. O., '35
Medical Arts bldg., Wilmington 9, Del. **OALR**
Lampert, Max T., '31.....First Nat'l bldg., Minot, N. D. **ALR**
①Lancaster, W. B., '13
520 Commonwealth av., Boston 15, Mass. **OP**
Lance, Verne L., '44....1113 Quarrier, Charleston, W. Va. **ALR**
Landegger, George P., '40,
860 Roosevelt Bldg., 727 W. 7th St., Los Angeles 14, Calif. **OP**
Landis, J. E., '30.....232 N. Sixth, Reading, Pa. **ALR**
Lane, Franklin F., '33, Capt. (M.C.) USN
Walnut Park Plaza, 63rd and Walnut, Philadelphia, Pa. **OALR**
Lang, George H., '32.....202 E. Liberty, Savannah, Ga. **ALR**
Lange, Adolph C., '37.....3903 Olive, St. Louis 8, Mo. **OP**
Langworthy, Henry G., '44..394 W. 10th st., Dubuque, Ia. **ALR**
Lanson, Freeman A., '44
646 Washington Road, Mt. Lebanon, Pa. **ALR**
Lapointe, Jean, '39....300 Carre St. Louis, Montreal, Can. **ALR**
LaReau, Hector G., '35..4803 Lincoln av., Chicago 25, Ill. ALR
③①Large, Secord H., '04...170 Eddy rd., Cleveland, Ohio ALR
Larimore, Fred Campbell, '40
500 Penn av., Pittsburgh 22, Pa. **OP**
①Larkin, Bernard J., '16
305 Hume Mansur bldg., Indianapolis 4, Ind. **OP**
Larmore, Joseph L., '44..117 W. 13th St., Anderson, Ind. **ALR**
②Larsell, Olaf, '43, Ph.D., Sc.D.,
University of Oregon, Portland, Ore.
①Larsen, Carl L., '16..Lowry Med. bldg., St. Paul 2, Minn. **OALR**
Larson, Bertil T., '38.....Riker bldg., Pontiac 15, Mich. **ALR**
Larson, G. Arthur, '33....608 Black bldg., Fargo, N. D. **OALR**
LaRue, C. L., '22.....Highland Clinic, Shreveport 50, La. **OALR**
Lasky, Mortimer A., '39
Fox Medical bldg., 1 Nevins, Brooklyn, N. Y. **OP**
①Lassen, Fritz, '15.....Pueblo Clinic bldg., Pueblo, Colo. **OALR**

Lassiter, Chester L., '38
Hamilton Nat'l Bk., Chattanooga 2, Tenn. ALR
Last, Murray A., '36...1095 Park av., New York 28, N. Y. OP
Lathbury, Edwin F., '42, Maj. (MC) 0-1691234
279th Station Hosp., APO 755, Berlin, Germany ALR
Lathrop, Frank D., '40, Major (M.C.),
262 Vendome, Grosse Point 30, Mich. ALR
Latimer, Marvin L., '38
129 Whitney av., New Haven 10, Conn. ALR
②Lauber, Prof. Dr. Hans, '34
Ul Gertrudy 18ms, Krakav, Generalgouvernment OP
Lauppe, Frederick A., '40
1801 David Whitney bldg., Detroit 26, Mich. OP
Laval, Joseph, '31.....136 E. 64th, New York 21, N. Y. OP
②La Vigne, A. A., '18
667 Madison av., New York 21, N. Y. OALR
Law, Frederick M., '37..140 E. 54th, New York 22, N. Y. ALR
①Lawrence, Granville A., '18
Medical Arts bldg., Philadelphia 3, Pa. OP
Lawson, Lawrence J., '31.....636 Church, Evanston, Ill. ALR
Lawwill, Stewart, '28
Medical Arts bldg., Chattanooga 3, Tenn. OALR
Lazar, A. M., '38.....30 N. Michigan, Chicago 2, Ill. ALR
Lazar, Nathan K., '36
Rm 2025, 25 E. Washington st., Chicago 2, Ill OP
Leach, Robert S., '41
Medical Arts bldg., Knoxville 2, Tenn. OP
Leahey, Brendan D., '36.....9 Central, Lowell, Mass. OP
Leahey, George A., '37.....45 Merrimack, Lowell, Mass. OP
Leamer, Bruce V., '38, Capt. MC USN, Force Medical Officer
Com. Air PAC, c/o Fleet Post Office, San Francisco, Calif. ALR
Leasure, J. Kent, '31
611 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
Leath, Maclean B., '44..511 N. Main st., High Point, N. C. ALR
Leavenworth, R. O., '30
Lowry Med. bldg., St. Paul 2, Minn. OP
①Leavy, C. A., '12...Metropolitan bldg., St. Louis 3, Mo. ALR
①Lehan, James W., '16...Park Place bldg., Greeley, Colo. OALR
6200 N. Kenmore av., Apt. 1022, Chicago 40, Ill. OALR
Le Compte, E. D., '27
9 Exchange pl., Salt Lake City 1, Utah OALR
Lederer, Francis L., '25, Capt. (M. C.), USNR,
Address Unknown ALR
Lee, Wayne Robert, '43
613 Medical Arts bldg., Burlington, Iowa ALR
Leech, V. M., '30.....55 E. Washington, Chicago 2, Ill. OP
LeFevre, Willis H., '35.....234 N. Duke, Lancaster, Pa. ALR
Lefkon, Irving M., '39..37-14 73rd, Jackson Heights, N. Y. ALR
②Lefler, Anna B., '18
2419 W. 18th St., Los Angeles 6, Calif. OALR
Leggett, Albert E., '34
614 Fincastle bldg., Louisville 2, Ky. OP
①Lehan, James W., '16....Park Place bldg., Greeley, Colo. OALR
Lehrfeld, Louis, '39.....1321 Spruce, Philadelphia 7, Pa. OP
Leich, Charles F., '41, 124 S. E. First St., Evansville 8, Ind. ALR
Leinfelder, Placidus J., '37
University Hosp., Iowa City, Iowa OP
LeJeune, F. E., '27...Ochsner Clinic, New Orleans 15, La. ALR
Lemel, Samuel L., '35.1030 Euclid av., Cleveland 15, Ohio ALR
①Lemere, H. B., '12,
9615 Brighton Way, Beverly Hills, Calif. OALR
②Lemoine, A. N., '20....Rialto bldg., Kansas City 6, Mo. OP
Lempert, Julius, '43....119 E. 74th, New York 21, N. Y. ALR
Lenholt, Eric H., '44...101 Lenox av., Daytona Beach, Fla. ALR
Lennon, Robert Watson, '41.....Morris bldg., Joliet, Ill. OP
Lentine, Joseph, '38,
520 Commonwealth Ave., Boston 15, Mass. ALR
Leonard, Jacob C. Jr., '44
3½ E. First av., Lexington, N. C. ALR
Leopold, Irving H., '43, University Hospital,
University of Pennsylvania, Philadelphia 4, Pa. OP
Lepard, Cecil W., '37
David Whitney bldg., Detroit 26, Mich. OP
Lerner, Macy L., '23.....332 Park av., Rochester 7, N. Y. OP
Leshin, Norman, '31...55 E. Washington st., Chicago 2, Ill. ALR
①Lester, Harry S., '09.....Murray bldg., Streator, Ill. OALR
Le Tellier, Forrest S., '36.Doctors bldg., Knoxville 30, Tenn. OP
Levbarg, John J., '37,
176 W. 87 st., New York 24, N. Y. ALR
Levin, Abram A., '37....Carew Tower, Cincinnati 2, Ohio OP
Levin, Nathaniel M., '39..725 S. W. 25th Rd., Miami, Fla. ALR
Levitt, Jesse M., '35, Capt. (MC) 0507618, 232nd General Hosp.,
APO 86, c/o PM, San Francisco, Calif. OP
Levy, Abram, '34..1401 Plainfield av., So. Plainfield, N. J. OP
Levy, Harry H., '31.....119 Murray, Binghamton, N. Y. OP
Levy, Irvin, '39.....222 W. State, Trenton 8, N. J. OP
①Levy, Louis, '16...Commerce Title bldg., Memphis 3, Tenn. OALR
Lewin, Michael, '42, Major (M.C.),
Cushing Gen. Hosp., Framingham, Mass. ALR-PLS
Le Win, Thurber, '29....112 Linwood av., Buffalo 9, N. Y. OP
②Lewis, Fielding O., '21.....(Retired), Media, Pa. ALR
②Lewis, George A., '20.....213 Main, Roundup, Mont. OALR
②Lewis, J. D., '19
650 Hot Springs Dr., Santa Barbara, Calif. OALR
①Lewis, James P., '15, Comdr., (M.C.) USNR
U. S. Navy Yard, Charlestown, Mass. ALR
Lewis, Philip M., '28....Exchange bldg., Memphis 3, Tenn. OP
Lewis, Samuel D., '43.....49 Pearl, Hartford 3, Conn. OP
Lewis, Samuel J., '37.....S. F. C. bldg., Augusta, Ga. ALR
Lewy, Alfred, '42.....25 E. Washington st., Chicago 2, Ill. ALR
Lewy, Robert B., '39.....25 E. Washington, Chicago 2, Ill. ALR
Leyda, James H., '27...Metropolitan bldg., Denver 2, Colo. ALR
Lieberman, Alfred T., '44, Capt. (MC)
c/o E. J. Filtzer, Emersonian Apts. 4-C, Baltimore, Md. ALR
Lierle, Dean M., '28
University Hospital, Iowa City, Iowa ALR-PI S
Lifschutz, Jacob, '25..30 N. Michigan av., Chicago 2, Ill. OALR
Liggett, Harold, '36...44-05 Parson blvd., Flushing, N.Y. ALR
Light, George, '37.....709 N. 11th, Milwaukee 3, Wis. ALR
②Lillie, Harold I., '20.....Mayo Clinic, Rochester, Minn. ALR
Lillie, W. Ivan, '30.....255 S. 17th, Philadelphia 3, Pa. OP
Limbach, Earl Frederick, '40
30 W. 59th, Station G, New York 19, N. Y. ALR
Lindberg, Vernon L., '42
Physicians & Surgeons Bldg., Minneapolis, Minn. OP
Lindsay, John R., '36.....950 E. 59th, Chicago 37, Ill. ALR
Lingeman, B. N., '30...Ben Hur bldg., Crawfordsville, Ind. ALR
Lingeman, E. L., '29
315 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
②Linn, J. G., '19.....Jenkins Arcade, Pittsburgh 22, Pa. OP
Linton, Claire S., '37
c/o Cottonseed Delinting Corp., Kennett, Mo. ALR
Lippmann, Otto, '43, Capt. (MC)
Regional Hospital, Ft. Benning, Ga. OP
①Lischkoff, M. A., '13.....Blount bldg., Pensacola, Fla. OALR
③Lister, Sir William T., '23
24 Devonshire pl., W. 1, London, Eng.
②Litchfield, J. T., '19
Medical Arts bldg., Minneapolis 2, Minn. OALR
Littell, J. Jerome, '31
603 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
Little, Milton F., '38.....49 Pearl, Hartford 3, Conn. OP
Littwin, Charles, '33...950 Queen Anne rd., Teaneck, N. J. OALR
Liva, Arcangelo, '40....5 Pangborn pl., Hackensack, N. J. OALR

Livingston, George S., '30
185 N. Wabash av., Chicago 1, Ill. **ALR**
①**Lloyd, A. W.**, '15.....Lloyd bldg., Hammond, Ind. **OALR**
Lloyd, Ralph I., '25....14 Eighth av., Brooklyn 17, N. Y. **OP**
Lockwood, Chester C., '42, Capt. (M.C.),
4707 Broadway, Chicago, Ill. **OP**
Loder, L. L., '43, 506 Hackley
Union Nat'l Bank bldg., Muskegon 11, Mich. **OP**
Loeb, Wm. J., '42..1125 Schofield bldg., Cleveland 15, Ohio **ALR**
Loewe, Walter R...'34, Comdr. (MC)
114 Madison av., New York 28, N. Y. **OP**
Loftus, John Edward, '22
1930 Chestnut, Philadelphia 3, Pa. **ALR**
Logue, Lyle J., '31.....1304 Walker, Houston 2, Texas **ALR**
①**Lokey, H. M.**, '09....Medical Arts bldg., Atlanta 3, Ga. **OALR**
Lombardo, Melchiore, '23
142 Joralemon, Brooklyn 2, N. Y. **OP**
Long, John C., '36.....Metropolitan bldg., Denver 2, Colo. **OP**
Long, Samuel H., '39
Medical Arts bldg., Chattanooga 3, Tenn. **ALR**
Longaker, Edwin P., '43
41 E. Montgomery av., Ardmore, Pa. **ALR**
②**Loomis, E. A.**, '18
Medical Arts bldg., Minneapolis 2, Minn. **OALR**
Loomis, George L., '43...310 Choate bldg., Winona, Minn. **ALR**
Looper, Edward A., '23.104 W. Madison, Baltimore 1, Md. **OALR**
Lordan, John P., '39
1930 Wilshire blvd., Los Angeles 5, Calif. **OP**
Lore, John M., '36...325 W. End av., New York 23, N. Y. **ALR**
Loutfallah, Michel, '44,
1826 State st., Santa Barbara, Calif. **OP**
Lovesey, Burton E., '39
76 Bay State road, Boston 15, Mass. **ALR**
Lowenstein, Harold H., '44, Maj. (M.C.), 0-1689879,
Personnel Center, Camp Gordon, Ga. **OP**
Lowenthal, Gerson, '35
277 Doctor's bld., Cincinnati 2, Ohio **ALR**
Lower, Raymond A., '38, Comdr. (M.C.) USNR
Address Unknown **ALR**
Lowry, B. W., '25.....Citizens Bank bldg., Tampa 2, Fla. **OALR**
Lowy, Karl, '44.....35 Chestnut st., Rochester, N.Y. **ALR**
Loy, A. W., '43, Capt. (MC) USN
U. S. Naval Air Station, Anacostia 20, D. C. **OP**
Lubart, Joseph, '44...310 West 86th st., New York, N.Y. **ALR**
Luber, Samuel, '38
1801 Eye st., N. W., Washington 6, D. C. **ALR**
Lucas, Harold R., '28
Medical-Dental bldg., Portland 5, Ore. **OALR**
Ludwig, William Henry, '40
Medical Arts bldg., Tacoma 2, Wash. **ALR**
①**Luedde, W. H.**, '16..Metropolitan bldg., St. Louis 3, Mo. **OP**
Luhr, Alfred F., '31.....40 W. North, Buffalo 2, N. Y. **OP**
Luke, William R. F., '38
Medical Arts bldg., Toronto 5, Can. **OP**
①**Lukens, Charles**, '06.....316 Michigan, Toledo 2, Ohio **OALR**
Lukens, J. A., '30.....316 Michigan, Toledo 2, Ohio **ALR**
②**Lukens, Robert McD.**, '20, Suite 1001, Medical
Arts bldg., 16th & Walnut, Philadelphia 3, Pa. **ALR**
Lundon, A. E., '27, Col.....1463 Bishop, Montreal, Can. **ALR**
Lundvick, Cyril V., '38
Medical Arts bldg., Tacoma 2, Wash. **OP**
Luongo, Romeo A., '31...2054 Locust, Philadelphia 3, Pa. **ALR**
Lupo, Carl W., '32, Col. (M.C.),
215 St. Johns Place, Brooklyn 17, N.Y. **ALR**
Lupton, Irving M., '28.Medical Arts bldg., Portland 5, Ore. **OALR**
Lurie, M. H., '30.....483 Beacon, Boston 15, Mass. **ALR**
Lux, Paul, '25.....Bryant bldg., Kansas City 6, Mo. **ALR**
Lyle, Donald J., '27.....Carew Tower, Cincinnati 2, Ohio **OP**
Lyman, Edward H., '44, Capt. (M.C.) Sq. B, 123rd Base Unit
Seymour Johnson Field, Goldsboro, N. C. **ALR**
Lyman, Harry W., '23.....308 N. 6th, St. Louis 1, Mo. **ALR**
Lynam, Patrick J., '44....1650 Young St., Honolulu, T.H. **ALR**
Lynch, Joseph Sidney, '42, Major (M.C.)
Halloran General Hos., Staten Island, N. Y., **OP**
Lynch, Mercer G., '39, Maj. (MC)
2024 Audubon St., New Orleans, La. **ALR**
Lynch, Robert J., '31..Equitable bldg., Des Moines 9, Iowa **ALR**
②**Lyons, H. R.**, '20....1301 N. State St., Chicago 10, Ill. **ALR**

Mc

McAdams, Wm. R., '33.....704 Congress, Portland 4, Me. **OP**
②**McAlester, Andrew W. Jr.**, '20,
Bryant bldg., Kansas City 6, Mo **OP**
McAlester, A. W., 3rd., '32, Lt. Comdr. (M.C.) USNR
U. S. Naval Hosp., Pensacola, Fla. **OP**
McAlpine, Paul Theodore, '42, Capt. (M.C.),
Station Hospital, Keesler Field, Miss. **OP**
McAndrews, Leo F., '31...Mermont Plaza, Bryn Mawr, Pa. **OP**
McAskill, James E., '32
Woolworth bldg., Watertown, N. Y. **ALR**
McAuley, Albert G., '38
1301 Dorchester st. W., Montreal, Can. **OP**
McAuliffe, G. W., '32
630 Park av., New York 21, N. Y. **ALR-PI S**
③**McBean, Geo. M.**, '20..25 E. Washington, Chicago 2, Ill. **OALR**
McBean, James Blish, '38
302 Seventh av., S. W., Rochester, Minn. **ALR**
McBride, Linn Frederick, '42, 1501 Asbury av., Evanston, Ill. **ALR**
McBride, Noel S., '40....12 S. 7th st., Terre Haute, Ind. **OP**
McCall, J. W., '43.....610 Rose bldg., Cleveland 15, Ohio **ALR**
②**McCannel, Archie D.**, '20
Corner 1st st. S.W. and Central av., Minot, N. D. **OALR**
McCart, Howard W. D., '39
170 St. George st., Toronto 5, Ontario, Can. **ALR**
McCarthy, C. T., '40.....1810 Pine, Philadelphia 3, Pa. **ALR**
①**McCaskey, Carl H.**, '11
Guaranty bldg., Indianapolis 4, Ind. **ALR**
McCaslin, Murray F., '40
Union Trust bldg., Pittsburgh 19, Pa. **OP**
McClanahan, Robert, '37..60 E. 75th, New York 21, N. Y. **OP**
McClintock, Walter L., '39, Capt. (M.C.),
120 Putnam st., Quincy, Mass. **ALR**
McCloskey, Paul, '40.....338 Locust st., Johnstown, Pa. **ALR**
McClure, George, '39.....411 Thirtieth, Oakland 9, Calif. **ALR**
McCollom, Robert L., '42..115 E. 61st st., New York, N. Y. **ALR**
McCollough, T. B., '32
121 University Place, Pittsburgh 13, Pa. **ALR**
McComiskey, Arthur James, '40
3420 Prytania st., New Orleans 15, La. **ALR**
McConkie, Willis L., '36.....Carroll, Iowa **ALR**
①**McCool, J. L.**, '11...450 Sutter, San Francisco 8, Calif. **OP**
McCormick, T. F., '30.....Wells bldg., Milwaukee 2, Wis. **ALR**
McCoy, L. L., '30.....1317 Marion, Seattle 4, Wash. **OP**
①**McCready, J. Homer**, '12
121 University pl., Pittsburgh 13, Pa. **ALR**
McCuaig, Duncan Roderick, '40, 40 E. 61st, New York, N. Y. **ALR**
McCuaig, Victor C., '39...40 E. 61st, New York 21, N. Y. **ALR**
②**McCulloch, Robert J. P.**, '19
Medical Arts bldg., Toronto 5, Can. **OALR**
McCullough, C. J., '29
Washington Trust bldg., Washington, Pa. **OALR**

McCullough, Lester E., '42
1553 Woodward av., Detroit 26, Mich. OP
McCullough, Malcolm K., '39
Medical Arts bldg., Dallas 1, Texas OP
McCurdy, Gordon Judson, '40
198 Angell st., Providence 6, R. I. ALR
McCutchan, Frank, '38....100 W. Innes, Salisbury, N. C. ALR
McDaniel, Rueben L., '44
211 St. James bldg. Jacksonville, Fla. OP
McDannald, C. E., '27...100 W. 59th, New York 19, N.Y. OP
McDavitt, Bertha S. S., '29..Main & Av. A, Temple, Texas ALR
McDermott, John J., '24..505 Pleasant, St. Joseph, Mich. OALR
②McDiarmid, H. Oliver, '18
35 Clement block, Brandon, Man., Can. OALR
③McDonald, C. L., '19....Rose bldg., Cleveland 15, Ohio OALR
McDonald Philip R., '40, Maj. (M.C.)....address unknown OP
McDougall, J. Calhoun, '32
Medical Arts bldg., Atlanta 3, Ga. ALR
McDougall, Wm. L., '31....Doctors bldg., Atlanta 3, Ga. ALR
①McDowell, N. D., '14.275 Alexander, Rochester 7, N. Y. OALR
McEachern, Margaret A., '39
Medical Arts bldg., Toronto, Can. ALR
McFarlane, Donald C., '37
380 Queens av., London, Ont., Can. ALR
McGannon, Francis Lambert, '41
14900 Detroit av., Lakewood 7, Ohio ALR
McGarry, H. Isabelle, '43.....636 Church, Evanston, Ill. OP
McGarvey, Wm. E., '29
Jackson City Bank bldg., Jackson, Mich. OALR
McGavic, John S., '40, Capt. (M.C.),
Valley Forge Gen. Hosp., Phoenixville, Pa. OP
McGeary, George E., '37
Medical Arts bldg., Minneapolis 2, Minn. ALR
McGehee, Melvin W., '42, 425 11th, Huntington 1, W. Va. ALR
McGillicuddy, O. B., '30
1908 Olds Tower bldg., Lansing, Mich. ALR
McGovern, Francis H., '39
Masonic Temple bldg., Danville, Va. ALR
McGowan, Joseph Francis, '43
New Medical bldg., Asheville, N. C. ALR
McGrath, Harry, '41
12 Shore Lane, Bay Shore, L. I., N. Y. OP
McGrath, James B., '37
2615 Grand Concourse, New York 58, N. Y. ALR
McGrath, Philip R., '39, 842-845 Jefferson bldg., Peoria, Ill. ALR
McGregor, D'Arcy, '36.....83 Bryant, Buffalo 9, N. Y. ALR
McGregor, Gregor W., '31.170 St. George, Toronto 5, Can. ALR
①McGuire, H. H., '13..105 N. Braddock, Winchester, Va. OP
McGuire, John, '43.....Peery bldg., Bluefield, W. Va. ALR
McGuire, William P., '40..105 N. Braddock, Winchester, Va. OP
McHenry, L. Chester, '30
Medical Arts bldg., Oklahoma City 2, Okla. ALR
McIntire, Frederic J., '37....63 N. Common, Lynn, Mass. ALR
McIntyre, George F., '37.25 E. Washington, Chicago 2, Ill. ALR
McKay, Edward D, '43..Scott & White Clinic, Temple, Tex. OP
②McKee, Claude W., '17...Coulter bldg., Greensburg, Pa. OALR
McKee, Joseph W., '28
Professional bldg., Kansas City 6, Mo. OP
McKee, Thomas L., '39, Maj. (MC)
1733 N. E. 8th St., Ft.Lauderdale, Fla. OP
McKee, Thomas P., '39
207 E. Watauga av., Johnston City, Tenn. OALR
②McKennan, James W., '17
Washington Trust bldg., Washington, Pa. OP
McKenzie, William Raymond, '41
101 W. Read st., Baltimore 1, Md. ALR
②McKeown, Elmer E., '18..Republic bldg., Denver 2, Colo. OALR
McKinney, A. R., '23
330 S. Washington av., Saginaw, Mich. OALR
McKinney, James Wesley, '41
Exchange bldg., Memphis 3, Tenn. OALR
McLane, Jesse Newman, '42..Blount bldg., Pensacola, Fla. ALR
McLaughlin, John James, '41, Lt. (M.C.), Address Unknown ALR
McLaughlin, R. C., '43
3780 Wilshire bldg., Los Angeles 5, Calif. ALR
①McLaughlin, Ralph S., '44,
805 Atlas bldg., Charleston, W. Va. OP
McLaurin, James Walter, '41.251 3rd, Baton Rouge 6, La. ALR
McLaurin, John G., '26..4710 Munger av., Dallas 4, Texas ALR
McLean, John M., '40...525 E. 68th, New York 21, N. Y. OP
McLellan, Thomas G., '35
Second Nat'l Bank bldg., Connellsville, Pa. OP
McLemore, Carl Sloan, '40,
541 Lincoln Rd., Miami Beach, Fla. ALR
McLeod, Angus M., '36, Capt. (M.C.),
Camp Borden Military Hospital, Camp Borden, Ont., Can. ALR
McLeod, John, '39, Maj. (MC)
Brooke General Hosp., Annex 2, Ft. Sam Houston, Tex. OP
McMahon, Bernard J., '26
Missouri Theatre bldg., St. Louis 3, Mo. ALR
①McMurray, J. B., '13
Washington Trust bldg., Washington, Pa. OALR
McMurray, John S., '43, Capt. (MC) 0-497934
415 E. Wheeling St., Washington, Pa. ALR
McNair, Stirling S., '41, Comdr. (MC)
Rt. 3, Box 111, Jackson, Miss. OP
McNally, Wm. James, '28....Linton Apts., Montreal, Can. ALR
McNay, Miller Ost, '41
472 Central av., St. Petersburg 5, Fla. ALR
McNichols, W. A., '25.....101 W. First st., Dixon 3, Ill. OALR
McPherson, Samuel D., '35
McPherson Hospital, Durham, N. C. ALR
McQuiston, Ralph J., '37, Lt. Col. (M.C.),
AAF Regional Sta. Hosp., Chanute Field, Ill. ALR
McQuoid, Robert Moffat, '40....39 Columbia, Bangor, Me. ALR
McRae, John H., '30
Medical Arts bldg., Grand Rapids 2, Mich. OP
McReynolds, George S., Jr., '40
927 Strand, Galveston, Texas ALR
McRoberts, Earl S., '38..55 E. Washington, Chicago 2, Ill. ALR
McWilliam, Charles S., '37, Lt. Col. (M.C.),
205 Liberty, Newburgh, N.Y. OP
McWilliams, Charles A., '27
1300 27th av., Gulfport, Miss. ALR

M

Mabee, Oscar Judson, '41
Medical Arts bldg., Mitchell, S. D. ALR
MacCardell, Frank Cameron, '40
193 Waterman st., Providence 6, R. I. ALR
MacCready, Paul B., '31.442 Temple, New Haven 11, Conn. ALR
Macdonald, James Orville, '41
67 E. 59th, New York 22, N. Y. ALR
Macdonald, J. C., '30
301 N.W. 12th, Oklahoma City 3, Okla. ALR
MacDonald, Philip G., '35.115 E. 61st, New York 21, N.Y. ALR
Macdonald, Roderick, '40.330 East Main, Rock Hill, S. C. ALR

MacFarlane, Howard W., '41
David Whitney bldg., Detroit 26, Mich. ALR
①Macfarlane, P. B., '16,
Medical Arts bldg., Hamilton, Ont., Can. OALR
Mackenzie, Roland C., '39....30 Grant, Waltham 54, Mass. OP
②MacLachlan, A. A., '18..May bldg., Pittsburgh 22, Pa. ALR
MacLean, Angus L., '35, 1201 N. Calvert, Baltimore 12, Md. OP
MacMillan, Andrew L., Jr., '37
46 Pleasant, Concord, N. H. ALR
MacMillan, J. A., '25.....1410 Stanley, Montreal 2, Can. OP
MacMillan, Karl D., '44, Lt. Col. (M.C.),
address unknown OP
Macneil, Frank A., '38.Medical Arts bldg., Winnipeg, Can. ALR
Macnie, John P., '35..2501 Palisade av., New York 63, N. Y. OP
②Macnie, J. S., '19
Medical Arts bldg., Minneapolis 2, Minn. OALR
Macpherson, Duncan, '36
920 Fifth av., New York 21, N. Y. ALR
Madeley, Howard Randall, '40
727 Sonoma st., Vallejo, Calif. OP
Magee, F. Earle, '37.....222 Seneca, Oil City, Pa. ALR
②Maggard, D. I., '20....Orpheum bldg., Wichita 2, Kan. OALR
Maghy, Charles A., '26
Medico Dental bldg., San Diego 1, Calif. OP
Mahoney, Charles L., '40..1438 S. Center, Terre Haute, Ind. ALR
Mahoney, Frank A., Jr., '43,
293 Bridge St., Springfield, Mass. ALR
Mahoney, Paul L., '28...Donaghey bldg., Little Rock, Ark. ALR
②Maiden, Sydner D., '18.446 Aquila Court, Omaha 2, Nebr. OALR
Maier, Marcus M., '43.....513 Front, Hempstead, N. Y. ALR
Maliniac, Jacques W., '36,
106 E. 78th, New York 21, N. Y. ALR-PI S
Mallon, Frank E., '37, The Williamsburgh Bank bldg.,
1 Hanson Place, Brooklyn 17, N. Y. OP
Malone, F. B., '30...2609 Nineteenth st., Lubbock, Texas ALR
Malone, Phocian W., '36.....811 Main, Big Spring, Texas ALR
Maloy, Wayland H., '33
608½ W. Sheridan av., Shenandoah, Iowa OP
Mandeville, Clifford Bagley, '41
Hackley Union Bank, Muskegon, Mich. ALR
Maness, Guy Milford, '41
119 7th av. North, Nashville 3, Tenn. ALR
Manigan, Thomas P., '39,
431 Patterson, Memphis 11, Tenn. ALR
Manion, Marlow W., '36
601 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
Mann, Albert H., '35
2324 Glendale av., Texarkana, Ark.-Texas ALR
Mann, J. J., '34.....255 State, Perth Amboy, N. J. ALR
Mann, Mortimer, '43
323 Hume-Mansur bldg., Indianapolis 4, Ind. OP
Mann, William A., '28..30 N. Michigan av., Chicago 2, Ill. OP
March, Clara A., '22....465 Ashland av., Buffalo 13, N. Y. OP
Marchman, Oscar M., '35
814 Medical Arts bldg., Dallas 1, Texas ALR
Marchman, Oscar M., Jr., '44,
814 Medical Arts bldg., Dallas 1, Tex. OP
Marcotte, Raymond H., '32.....196 Main, Nashua, N. H. ALR
Marcove, Maurice E., '39...1612 Tremont, Denver 2, Colo. OP
②Markel, J. Clyde, '17
806 Pitt Bank bldg., Pittsburgh 22, Pa. OP
Marks, Julian B., '29
1093 Broxton av., Los Angeles 24, Calif. ALR
Marks, Moses I., '42, 2832 Washington Blvd.,
Cleveland Heights, Ohio ALR
Marks, Paul L., '42 Capt. (MC)
2135 Packer st.,Baton Rouge, La. OP
Marks, Roland F., '39, Lt. Col. (MC), Letterman General
Hosp., EENT Service, San Francisco, Calif. ALR
Marks, Samuel B., '28.....200 W. 2nd, Lexington 15, Ky. ALR
Marmelstein, Maurice, '43
1st Nat'l Bank bldg., Carbondale, Pa. OP
Marsden, W. C., '30....99 N. Franklin, Wilkes-Barre, Pa. OALR
Marshall, Don, '36,
1410 American Bank Bldg., Kalamazoo, Mich. OP
Marshall, George G., '23.....Gryphon bldg., Rutland, Vt. OALR
Marshall, Hal E., '35,
22 Colonial Court, Eastborough, Wichita, Kans. ALR
①Marshall, Watson, '14
121 University pl., Pittsburgh 13, Pa. ALR
Marshall, William J., '38..Montana block, Missoula, Mont. ALR
Martin, Ashby G., '36
895 Lexington av., New York 21, N. Y. ALR
Martin, Henry F., '40, 904 Government St., Mobile 20, Ala. ALR
Martin, Hilmar G., '39
231 W. Wisconsin av., Milwaukee 3, Wis. OP
Martin, N. A., '37.....Gallipolis Clinic, Gallipolis, Ohio ALR
Martin, Paul T., '38.235 E. Santa Clara, San Jose 20, Calif. ALR
Martin, Roy D., '29....Masonic bldg., Grand Island, Nebr. ALR
Martin, W. O., Jr., '30.....478 Peachtree, Atlanta 3, Ga. OP
Mason, Roy E., '28.....Frisco bldg., St. Louis 1, Mo. OP
Masor, Philip L., '41, 306 E. 15th St., New York 3, N.Y. OP
Master, John R., '43, Capt. (MC)
3449 Fillmore St., San Francisco 23, Calif. ALR
Masters, John M., '38
805 Hume Mansur Bldg., Indianapolis 4, Ind. OP
Masters, Robert J., '28
805 Hume-Mansur bldg., Indianapolis 4, Ind. OP
Mather, Homer Raymond, '42.....224 Depot, Latrobe, Pa. ALR
Matheson, John H., '39 Lt. Comdr. (MC)
USS Repose, FPO San Francisco, Calif. OP
Mathews, Raymond H., '38
186 South st., Morristown, N. J. ALR
Mathias, Daniel Francis, '40
Central Tower bldg., Akron 8, Ohio ALR
Matthews, John L., '43, 414 Navarro St., San Antonio 5, Tex. OP
①Matthews, Justus, '10
Medical Arts bldg., Minneapolis 2, Minn. LR
Mattis, Robert Dean, '42,
375 North Taylor av., St. Louis 8, Mo. OP
Matusow, A. P., '35
1100 Grand Concourse, New York 56, N. Y. ALR
Matusow, Meyer, '44...175 Main St., White Plains, N. Y. OP
Matzkin, Lloyd L., '43 1525 E. 53rd St., Chicago 15, Ill. ALR
Maumenee, Alfred E., '43
Johns Hopkins Hospital, Baltimore 5, Md. OP
Maw, Raymond B., '39
699 E. South Temple, Salt Lake City 2, Utah ALR
Maxwell, Hal W., '43, Lt. (M.C.),.....Myra, Texas OP
Maxwell, Harvey C., '35, Lt. Col. (M.C.),
1718 N. Main, Santa Ana, Calif. OALR
Maxwell, James H., '34
1st Nat'l Bank bldg. Ann Arbor, Mich. ALR
Maxwell, Joseph S., '39.....214 N. Hale, Wheaton, Ill. OP
May, Frederick T., '41, Major (M.C.),
Deshon General Hospital, Butler, Pa. OP
①May, J. V., '15.....1703 Main, Marinette, Wis. OALR
May, James W., '44,..626 Lathrop bldg., Kansas City 6, Mo. OP
①Maybaum, J. L., '16..1070 Park av., New York 28, N. Y. ALR

Mayer, Leo L., '28..634 N. Grand av., St. Louis 3, Mo. **OP**
Mayerberg, Emil R., '29
Medical Arts bldg., Wilmington 9, Del. **ALR**
Mead, Ernest Charles, '41
106½ E. California, Gainesville, Texas **ALR**
Means, R. G., '30.....40 S. 3rd, Columbus 15, Ohio **ALR**
Meek, Raymond E., '31, Comdr. (MC)
U.S.S. Bountiful (AH9) c/o FPO, San Francisco, Calif. **OP**
Meinberg, William H., '39.....906 Olive, St. Louis 1, Mo. **OP**
Mellinger, Wm. J., '27
323 E. Sola st., Santa Barbara, Calif. **ALR**
Meloy, Wm. C., '33,
2019 R st. N.W., Washington 9, D.C. **ALR-PI S**
Melton, Bernard L., Jr., '31..15 E. Monroe, Phoenix, Ariz. **OP**
Meltzer, Philip E., '34.20 Charlesgate W., Boston 15, Mass. **ALR**
Mendel, James H., '32....Ingraham bldg., Miami 32, Fla. **ALR**
Mengel, Sterling F., '40, Comdr. (MC)
38 St. John st., Schuylkill Haven, Pa. **OP**
Menger, Louis C., '29...202 Weirfield, Brooklyn 21, N. Y. **ALR**
Mensher, Ira Wadsworth, '42.50 Plaza, Brooklyn 17, N. Y. **OP**
Menzies, Clifford G., '39
733 Woodward av., Iron Mountain, Mich. **ALR**
②**Mercer, Ray, '20**.....811-13 W.C.U. bldg., Quincy, Ill. **OALR**
①**Mercer, Richard E., '03**...126 Monterey, Detroit 3, Mich. **LR**
Meredith, Lawrence Cornelius, '40
124 Middle av., Elyria, Ohio **ALR**
Merica, F. W., '30....14805 Detroit av., Lakewood 7, Ohio **ALR**
Merkel, Byron M., '38,
718 Equitable bldg., Des Moines 9, Iowa **ALR**
Merkel, C. C., '28
85 Kercheval av., Grosse Pointe Farms 30, Mich. **ALR**
Merrick, Charles Gordon, '40...Leon bldg., Ft. Myers, Fla. **ALR**
②**Merrill, H. G., '17**..3245 Fourth av., San Diego 3, Calif. **OP**
Mertins, Paul S., '37, Capt. (MC), 233rd General Hosp.,
APO 331, c/o PM, San Francisco, Calif. **ALR**
Merz, Earl H., '43, Capt. (M.C.), 0-491970,
Valley Forge Gen. Hosp., Phoenixville, Pa. **OP**
Mesirow, Maurice E., '35.117 E. Cook, Santa Maria, Calif. **OP**
Messenger, Harry K., '39
313 Commonwealth av., Boston 15, Mass. **OP**
①**Messinger, H. C., '14**....210 Angell, Providence 6, R. I. **OP**
Messier, A. Eugene, '25.....390 Main, Worcester 8, Mass. **OALR**
①**Metz, Roy B., '12**...1422 Euclid av., Cleveland 15, Ohio **OP**
Meyer, George P., '37.....410 Haddon av., Camden, N. J. **OP**
Meyer, Samuel J., '28...58 E. Washington, Chicago 2, Ill. **OP**
Meyers, Paul T., '42 Maj. (MC) 0-1694223, 239 General Hosp.
APO 887, c/o PM, New York, N. Y., **ALR**
Mezz, David, '37...330 New York av., Brooklyn 13, N. Y. **ALR**
①**Middleton, A. B., '11**.....Clermont, Fla. **OALR**
②**Middleton, Harry E., '20**.....206A W. 3rd, Alton, Ill. **OALR**
Miksch, Henry Fred, '41.....209 S. Park, Rochester, Pa. **ALR**
Milder, Benjamin, '43, Capt. (M.C.),
Vet's Administration Facility, P.O. Box 56, Hines, Ill. **OP**
Miller, A. Boyd, '43
1006 Professional bldg., 429 Penn av., Pittsburgh 22, Pa. **ALR**
Miller, Alden H., '39, Lt. (M.C.), U.S.N.R.,
address unknown **ALR**
②**Miller, Alice R., '19**
505 Guaranty bldg., West Palm Beach, Fla. **OALR**
Miller, Alvin R., '39.....4th and Pike, Seattle 1, Wash. **ALR**
Miller, Daniel, '44..20 Charlesgate West, Boston 15, Mass. **ALR**
Miller, Edwin Ephron, '42
Medical Arts bldg., Knoxville 1, Tenn. **ALR**
Miller, G. Leslie, '35.14804 Detroit av., Lakewood 7, Ohio **OP**
Miller, H. Edward, '30.634 N. Grand blvd., St. Louis 3, Mo. **ALR**
②**Miller, Hugh, '20**.....Argyle bldg., Kansas City 6, Mo. **OALR**
Miller, Isidore, '37
2021 Grand Concourse, New York 53, N. Y. **ALR**
Miller, John, '30.....63 North st., Greenwich, Conn. **ALR**
Miller, Joseph A., '32...364 Prospect, South Orange, N. J. **ALR**
Miller, J. W., '29.....242 E. 19th, New York 3, N. Y. **ALR**
Miller, M. Valentine, '34
114 W. Phil-Ellena, Mt. Airy, Philadelphia 19, Pa. **ALR**
Miller, Meyer S., '44, Maj. (M.C.),
206 11th av., N.E., Calgary, Alberta, Can. **ALR**
Miler, Ralph H., '39,
6257 Rogers Park pl., Pleasant Ridge, Cincinnati 13, Ohio **OP**
Miller, Saul, '34.....88-05 150th st., Jamaica 2, N. Y. **OP**
Miller, Sidney N., '43
113 Hooker av., Poughkeepsie, N. Y. **ALR**
Miller, Theo. E., '31..First Trust bldg., Pasadena 1, Calif. **ALR**
Millett, Frank A., '33.....40 High, Greenfield, Mass. **OALR**
Milligan, Roy H., '36
607 N. Grand Blvd., Room 205, St. Louis 3, Mo. **ALR**
Mills, Chester R., '34
520 Commonwealth av., Boston 15, Mass. **ALR**
Minns, John Edward, '41....316 Michigan, Toledo 2, Ohio **ALR**
②**Minor, H. F., '18**
Commerce Title bldg., Memphis 3, Tenn. **OALR**
Minsky, Arthur, '43..8601 Homelawn st., Jamaica 3, N. Y. **OP**
Minsky, Henry, '26.....2 E. 95th, New York 28, N. Y. **OP**
②**Minton, Wm. H., '20**....Corby bldg., St. Joseph 9, Mo. **OALR**
Mirow, David, '38.....237 E. 20th, New York 3, N. Y. **ALR**
Mishler, Donald L., '36
604 S. Cincinnati av., Tulsa 3, Okla. **ALR**
②**Mitchell, E. K., '18**
710 W. Lehigh av., Philadelphia 33, Pa. **ALR**
Mitchell, H. E., '30..14805 Detroit av., Cleveland 7, Ohio **ALR**
①**Mithoefer, W., '11**.....Carew Tower, Cincinnati 2, Ohio **ALR**
①**Mittendorf, A. D., '12**.399 Park av., New York 22, N. Y. **OP**
Mobley, Marion R., '39,
125 W. Cheves st., Florence S. C. **ALR**
Moehle, Walter, '32...15 Schermerhorn, Brooklyn 2, N. Y. **OP**
Moffat, Harold Forster, '42, The Clinic,
South Hotel st., at Thomas sq., Honolulu, Hawaii **OP**
Moffett, Daniel B., '38
1150 Connecticut av. N.W., Washington 6, D. C. **ALR**
Mogan, Richard F., '44
523 West 6th st., Los Angeles 14, Calif. **ALR**
Mohun, Meade, '43.....23 Second av., San Mateo, Calif. **ALR**
Moll, Arthur M., '32
Powers Theatre bldg., Grand Rapids 2, Mich. **ALR**
Molsberry, Jasper Merl, '41
425 E. Wisconsin av., Milwaukee 2, Wis. **OP**
①**Molt, Wm. F., '11**
Bankers Trust bldg., Indianapolis 4, Ind. **ALR**
Monaco, Louis, '43,
1100 Roosevelt Bldg., Los Angeles 14, Calif. **ALR**
①**Monahan, J. A., '13**.....181 Chestnut, Clinton, Mass. **OALR**
Monahan, James J., '35.....31 S. Jordin, Shenandoah, Pa. **ALR**
Monahan, Richard O'B, '44, 1510 3rd St., Roanoke 16, Va. ALR
Moncreiff, William F., '38.58 E. Washington, Chicago 2, Ill. **OP**
Mond, Edward, '40.....Eaton Tower, Detroit 26, Mich. **ALR**
Monette, C. J., '37.....814 Elm, Manchester, N. H. **ALR**
①**Monosmith, O. B., '05**.....O. P. S. bldg., Lorain, Ohio **OALR**
Monserrate, Manuel Maria, '41
73 Main, Binghamton, N. Y. **ALR**
Monson, LaFayette, '34.450 Sutter, San Francisco 8, Calif. **ALR**
①**Monson, S. H., '10**.B. F. Keith bldg., Cleveland 15, Ohio **OALR**
Montgomery, D. Cameron, '28
Weinberg bldg., Greenville, Miss. **ALR**

Montgomery, John L., '40.....Box 343, Knoxville, Tenn. **OP**
Moon, Seymour B., '36
429 Pennsylvania av., Pittsburgh 22, Pa. **OP**
Moore, Donald E., '43..713 East Genesee, Syracuse 2, N. Y. **OP**
Moore, Ellis Columbus, '41
First National Bank bldg., Olean, N. Y. **ALR**
②**Moore, George H.**, '19.101 Long Lane, Upper Darby, Pa. **OALR**
Moore, J. Hallock, '35.1050 Fifth av., Huntington 1, W.Va. **ALR**
Moore, James A., '41,....530 E. 90th, New York 28, N. Y. **ALR**
Moore, P. G., '30....Republic bldg., Cleveland 15, Ohio **OP**
Moore, Paul M., Jr., '30.Cleveland Clinic, Cleveland 6, Ohio **ALR**
Moore, Roy S., '28...State Tower bldg., Syracuse 2, N. Y. **ALR**
①**Moore, T. W.**, '01..1050 Fifth av., Huntington 1, W. Va. **OP**
Moore, Thomas Scott, '39.....107 N. 2nd, Niles, Mich. **OP**
Moore, Walter V., '37....1 Nevins st., Brooklyn 17, N. Y. **OP**
Moorhead, Robert L., '33..125 Remsen, Brooklyn 2, N. Y. **ALR**
Moran, Charles T., '37, Major (M.C.)
1966 Deer Park, Louisville, Ky. **OP**
Morgan, Alonzo Lloyd, '40.170 St. George, Toronto 5, Can. **OP**
Morgan, George E., '44
Gailey Eye Clinic, 1008 N. Main, Bloomington, Ill. **OP**
Morgan, Harold E., '42.....314 E. 3rd st., Newton, Kan. **OP**
Morgan, Irving J., '39
Jenkins Arcade bldg., Pittsburgh 22, Pa. **OP**
Morgan, William A., '39
1835 Eye st. N.W., Washington 6, D. C. **ALR**
Morgana, Dante James, '41.....13 Main, Lockport, N. Y. **OP**
Moriarty, Richard W., '28
3 Mamaroneck Road, White Plains, N. Y. **OALR**
Moriconi, Albert F., '39....438 Hamilton av., Trenton, N.J. **ALR**
Morledge, Roy V., '33....Hart-Albin bldg., Billings, Mont. **ALR**
Morley, George A., '30....P.O. Box 452, Crookston, Minn. **OP**
Morman, William Daniel, '41
3507 Franklin av., St. Louis 6, Mo. **ALR**
③**Morris, A. G.**, '18.Medical Arts bldg., Rochester 7, N. Y. **ALR**
Morris, S. A., '41
345 Homewood Rd., W. Los Angeles 24, Calif. **OP**
Morrison, Frederick M., '37,
717 Church St., Lynchburg, Va. **OP**
Morrison, Geo. S., '44..308 W. 2nd st., Roswell, N. Mex. **ALR**
Morrison, James D., '43, Capt. (MC) 0-269342
29th Gen. Hosp., APO 331, c/o PM, San Francisco, Calif. **OP**
Morrison, Wm. Howard, '38
Medical Arts bldg., Omaha 2, Nebr. **OP**
Morrison, W. R., '38....Hart-Albin bldg., Billings, Mont. **OALR**
Morrison, William W., '26, Capt. (M.C.), Naval
Dispensary, Navy Dept., Washington 25, D. C. **ALR**
Morrissett, Leslie E., '37, Major (M.C.),
Surgeon General's Office, Washington, D C. **ALR**
Morrone, Francis X., '43.117 S. 2nd av., Mt. Vernon, N. Y. **ALR**
②**Morsman, L. Wm.**, '20..Morsman Clinic, Hibbing, Minn. **OP**
Morton, J. B., '24.....90 E. Warren av., Detroit 1, Mich. **OALR**
Morwitz, Samuel M., '36.55 E. Washington, Chicago 2, Ill. **ALR**
Moser, G. P., '43, Maj. (MC) 0-283723
455 Market St., Bloomsburg, Pa. **ALR**
③**Mosher, Harris P.**, '18....127 Front, Marblehead, Mass. **ALR**
Mosher, Henry A., '42, Major (M.C.), 0-1693289,
58 Cambridge av., Dayton 6, Ohio **OP**
Mosher, Walter F., '44....34 N. Ash st., Ventura, Calif. **ALR**
Moshinsky, Alex. L., '36..237 E. 20th, New York 3, N. Y. **ALR**
Moss, L. Conner, '37
1705 Rhode Island av., N.W., Washington, D. C. **OP**
Moss, Olin W., '31.....Weber bldg., Lake Charles, La. **ALR**
Motley, Fred Elliot, '38...106 W. 7th, Charlotte 2, N. C. **ALR**
Mott, Walter C., '40..... 75 Willett, Albany 6, N. Y. **OP**
Motto, M. Paul, '29.....Rose bldg., Cleveland 15, Ohio **OP**
①**Moulton, Everett C.**, '15
Merchants Nat'l Bk. bldg., Ft. Smith, Ark. **OALR**
①**Moulton, H.**, 1900
Merchants Nat'l Bk. bldg., Ft. Smith, Ark. **OALR**
Mountain, Edward R., '42, Capt. (M.C.),
128 S. Union st., Olean, N.Y. **ALR**
Mountjoy, Philip S., '44, Capt. (M.C.),
Regional Hosp., Ft. Monmouth, N. J. **ALR**
Mowry, Ben, '40.....First Nat'l Bk. bldg., Findlay, Ohio **ALR**
Moyer, John Sanford, '34
901 Washington av., Brooklyn 25, N.Y. **ALR**
Mueller, Lawrence W., '39
2301 Fairfield av., Fort Wayne, Ind. **ALR**
Mueller, Werner, '37.....412 Beacon, Boston 15, Mass. **ALR**
Muldoon, W. E., '36
Nix Professional bldg., San Antonio 5, Texas **OP**
Mullen, Carroll R., '37...2025 Locust, Philadelphia 3, Pa. **OP**
Mullen, Clifford J., '35
424 Brotherhood bldg., Kansas City 11, Kans. **OP**
Mulligan, Harold R., '37,
1680 N. Vine St., Hollywood 28, Calif. **ALR**
②**Mulsow, J. E.**, '20, Comdr. (M.C.), USNR,
Address Unknown **OALR**
Mumma, Claude S., '32, Maj. (M.C.),
U. S. Veterans' Facility, Los Angeles 25, Calif. **ALR**
①**Muncy, Wm. M.**, '14....162 Angell, Providence 6, R. I. **OALR**
①**Mundt, G. Henry**, '12
30 N. Michigan av., Chicago 2, Ill. **OALR**
Munson, F. T., '30.2201 E. Jefferson av., Detroit 7, Mich. **ALR**
Murphy, A. B., '30
Medical & Dental bldg., Everett, Wash. **ALR**
Murphy, Edward S., '36, 309 Eddy av., Missoula, Mont. **OP**
Murphy, Rex L., '37...Metropolitan bldg., Denver 2, Colo. **ALR**
Murphy, Wm. E., '34.....390 Main, Worcester 8, Mass. **ALR**
Murray, Henry J., '31.....53 South st., Stamford, Conn. **ALR**
Murtagh, John Anthony, '41
Hitchcock Clinic, Hanover, N. H. **ALR**
Muskat, Irving, '33.....25 E. Washington, Chicago 2, Ill. **OALR**
Mussun, W. G., '24.....Rose bldg., Cleveland 15, Ohio **ALR**
Myers, David, '36.....1834 Pine St., Philadelphia, Pa. **ALR**
Myers, Elmer A., '20,
1708 Hammond av., Superior, Wisc. **OALR**
Myers, E. Lee, '26.....3903 Olive, St. Louis 8, Mo. **ALR**
②**Myers, John L.**, '20..Shukert bldg., Kansas City 6, Mo. **OALR**
Myers, Stanley A., '39
810 Dollar Bank bldg., Youngstown, Ohio **ALR**
Myerson, M. C., '23.....136 E. 64th, New York 21, N. Y. **ALR**

N

Nacey, Lawrence J., '44..221 Alexander, Rochester, N. Y. **ALR**
①**Nadeau, E. G.**, '15.....Belin bldg., Green Bay, Wis. **OALR**
②**Naftzger, J. B.**, '17
6777 Hollywood blvd., Hollywood 28, Calif. **OALR**
③**Nager, Prof. F.**, '25.Freiestrasse 20, Zurich, Switzerland **OALR**
Nail, James B., '36..1300 Eighth st., Wichita Falls, Texas **ALR**
Nairn, George Waverly, '41, Wyoming County
Community Hospital, Warsaw, N. Y. **ALR**
①**Nance, Willis O.**, '03...6845 Euclid av., Chicago 49, Ill. **OALR**
Nash, C. Stewart, '29...277 Alexander, Rochester 7, N. Y. **ALR**
Nash, Herbert T., '37.....31 N. State, Chicago 2, Ill. **ALR**
Nebinger, Reid, '33.....16 W. Market, Danville, Pa. **ALR**

Neblett, Herbert Clarence, '40
401 North Tryon, Charlotte 2, N. C. **OP**
Neely, Paul T., '36...Medical Arts bldg., Portland 5, Ore. **ALR**
②**Neeper, Edward R.,** '18
Exch. Nat'l Bk. bldg., Colorado Springs, Colo. **OP**
Neer, Edmonde DeW., '36.115 E. 61st, New York 21, N. Y. **ALR**
Neff, E. Eugene, '32.224 W. Washington, Madison 3, Wis. **OP**
Neidlinger, Wm. J., '42, Capt. (MC)
Regional Hosp., Ft. McClellan, Anniston, Ala. **ALR**
Neller, Walter I., '33....121 Wickham, Middletown, N. Y. **OP**
②**Nelson, Charles F.,** '19
Schofield bldg., Cleveland 15, Ohio **OALR**
Nelson, Fritz, '44.1121 N. Tejon, Colorado Springs, Colo. **OP**
Nelson, Leo A., '30.....Box 28, Dallas 1, Texas **ALR**
②**Nelson, Louis A.,** '18
Lowry Med. Arts bldg., St. Paul 2, Minn. **OP**
Nelson, Nathaniel F., '40.4910 15th av., Brooklyn 19, N.Y. **OP**
Nelson, Orville N., '36,
1008 First Federal bldg., St. Petersburg, Fla. **OALR**
Nemours, Paul R., '29
1506 Hodiamont av., St. Louis 12, Mo. **ALR**
Nerbonne, Joseph J., '39.....231 Main, Brockton 1, Mass. **OALR**
Nesbit, Mark E., '39
616 1st Nat'l Bank bldg., Madison 3, Wis. **OP**
Nesbit, Wellwood, '36.....1 S. Pinckney, Madison 3, Wis. **ALR**
Nethercut, G. W., '35...25 E. Washington, Chicago 2, Ill. **OP**
Nethercut, Ruth A., '38.450 Sutter, San Francisco 8, Calif. **ALR**
Neuberger, Julius Frederick, '42, Capt. (M.C.) USN
325 E. 57th St., New York 22, N. Y. **ALR**
Neumann, Wm. H., '28
Sheboygan Clinic, Sheboygan, Wis. **OALR**
Neuschatz, Gerald, '37
327 Central Park West, New York 25, N. Y. **ALR**
New, Gordon B., '25.....Mayo Clinic, Rochester, Minn. **L-PI S**
Newby, Harley D., '44...619½ Main, Rapid City, S. D. **ALR**
Newell, Frank W., '43, Capt. (M.C.)....Address Unknown **OP**
Newlands, W. A., '34....559 East Main, Mt. Kisco, N. Y. **ALR**
and 19 S. Broadway, Tarrytown, N. Y.
Newman, Erwin W., '38...1606 Capitol av., Cheyenne, Wyo. **OP**
Newman, Saul C., '44, Maj. (MC)
845 West End av., New York 25, N. Y. **ALR**
Newton, F. H., '25....Medical Arts bldg., Dallas 1, Texas **OALR**
Newton, Morris H., '34...Burrell bldg., Little Falls, N. Y. **OP**
Newton, Ray E., '43..1010 Reynolds bldg., Jackson, Mich. OP
Nippe, Leonard, '32.....316 Michigan, Toledo 2, Ohio OALR
②**Nisselson, Max,** '18
250 Riverside drive, New York 25, N. Y. **ALR**
Nodine, Edwin Rogers, '42
1110 Bell bldg., Montgomery 4, Ala. **ALR**
Noe, Carl A., '41,....601 Higley bldg., Cedar Rapids, Ia. **OALR**
Noonan, W. J., '25.....4753 Broadway, Chicago 40, Ill. **OALR**
Nordstrom, Chester A., '37
Exchange Bank bldg., Franklin, Pa. **ALR**
Norris, Mary Alice, '43
404 Hume-Mansur bldg., Indianapolis 4, Ind. **OP**
Northcott, Thomas A., '26.40 E. 61st, New York 21, N. Y. **OP**
Northington, Page, '35, Capt. (M.C.), U. S. Marine
Corps Air Station, Cherry Point, N. C. **ALR**
Norton, Arthur H., '31....1162 Willamette, Eugene, Ore. **OP**
Nova, Jules M., '33.....349 Adelphi, Brooklyn 5, N. Y. OP
③**Novak, Frank J., Jr.,** '19
30 N. Michigan av., Chicago 2, Ill. **ALR**
Novick, Joel N., '38
1726 Eye st. N.W., Washington 6, D. C. **ALR**
Nugent, Maurice Wilfred, '42
1930 Wilshire blvd., Los Angeles 5, Calif. **OP**
Nugent, Oscar B., '30..231 W. Washington, Chicago 6, Ill. **OP**
①**Nutter, C. F.,** '14.....16 Amherst, Nashua, N. H. **OP**
Nutting, Raymond J., '39..411 Thirtieth, Oakland 9, Calif. **OP**

O

Oakes, M. C., '44 Maj. (MC).....Lexington, Ohio **OP**
Oaks, Lewis Weston, '40..33 East 2nd South, Provo, Utah **OALR**
①**Oberg, Carl M.,** '10,
300 Physicians & Surg. bldg., Minneapolis 2, Minn. **OALR**
O'Brien, C. S., '24.....University Hosp., Iowa City, Iowa **OP**
O'Brien, Elmer W., '41.5 N. Goodman, Rochester 7, N. Y. **ALR**
O'Brien, G. R., '30
307 Sterling place, Brooklyn 17, N. Y. **ALR-PI S**
①**O'Brien, Steve A.,** '15,
1st Nat'l Bank bldg., Mason City, Iowa **OALR**
②**O'Connor, D. F.,** '18.....671 Broad, Newark 2, N. J. **OALR**
O'Connor Frederick J., '34
State Tower bldg., Syracuse 2, N. Y. **ALR**
O'Connor, Philip D., '34.30 N. Michigan av., Chicago 2, Ill. **OP**
②**O'Connor, Roderic P.,** '18.....411 30th, Oakland, Cal. **OP**
O'Connor, Thomas Philip, '42
30 N. Michigan av., Chicago 2, Ill. **ALR**
O'Connor, Timothy Francis, '40
4634 Main av., Ashtabula, Ohio **ALR**
O'Dell, John C., Jr., '37
Medical Arts bldg., 1022 Park st., Jacksonville 4, Fla. **ALR**
Odeneal, Thomas H., '29...Coker bldg., Winter Haven, Fla. **OALR**
Odom, Robert E., '38..378 Lora av., Youngstown 4, Ohio **ALR**
Odom, Stanley G., '34, Col. (M.C.), Station Hospital,
Fort Hayes, Columbus 18, Ohio **OALR**
Ogden, J. C., '86..Professional bldg., Long Beach 2, Calif. **OP**
Ogus, Alfred, '43, Capt. (MC),
Army Air Base, Salina, Kan. **ALR**
Ohly, John H., '32....22 Schermerhorn, Brooklyn 2, N. Y. **OP**
Ohmart, Walter A., '36....Republic bldg., Denver 2, Colo. **OP**
O'Hora, James T., '37
571 Fisher bldg., Detroit 2, Mich. **ALR**
O'Kane, George H., '38, Comdr. (M.C.) USNR
55 E. 86th St., New York 28, N. Y. **ALR**
Olkon, Dora B., '37
1919 Wilshire blvd., Los Angeles 5, Calif. **OP**
Olmsted, K. Elizabeth Pierce, '44,
568 Lafayette av., Buffalo 13, N. Y. **OP**
①**Olsho, S. L.,** '12.....235 S. 15th, Philadelphia 2, Pa. **OALR**
Olson, Archie, '41.....Medical Arts bldg., Duluth 2, Minn. **OP**
Olson, George W., '39.....1759 Fulton, Fresno 1, Calif. **ALR**
Opin, Edward, '38
2065 Grand Concourse, New York 53, N. Y. **ALR**
Oppegaard, C. L., '30..220 S. Broadway, Crookston, Minn. **ALR**
②**Orcutt, D. C.,** '17.....55 E. Washington, Chicago 2, Ill. **OALR**
O'Reilley, Bernard E., '37
585 So. Cleveland av., St. Paul 5, Minn. **OP**
①**O'Reilly, W. F.,** '13.....44 S. Common, Lynn, Mass. **OALR**
Ornston, Darius G., '44,
36 Carpenter Lane, Philadelphia 19, Pa. **ALR**
O'Rourke, Carroll, '32.....604 W. Berry, Ft. Wayne, Ind. **ALR**
O'Rourke, D. H., '27.....Republic bldg., Denver 2, Colo. **OP**
Orr, Eugene, '32.....Doctors bldg., Nashville 3, Tenn. **ALR**

②Orton, Henry B., '17...224 Delavan av., Newark 4, N. J. ALR
Ostrom, William C., '39,
1350 Union, Schenectady 8, N. Y. OP
Ostrow, Irving, '44, 41 Hooker Ave., Poughkeepsie, N. Y. ALR
O'Toole, Francis Austin, '40..181 Chestnut, Clinton, Mass. ALR
Otrich, Grover C., '32....Commercial bldg., Belleville, Ill. ALR
①Overman, Frederick V., '11,
222 W. Jefferson, Tipton, Ind. ALR
Overton, J. W., '43.....RD No. 1, Chester, N. Y. OALR
Owen, Walter E., '43...1242 Jefferson bldg., Peoria 2, Ill. ALR
Owens, Harold, '44..1052 W. 6th, Los Angeles 14, Calif. ALR
Owsley, Guy A., '41
Col. (M.C.), 214 N. High, Hartford City, Ind. ALR
Owsley, R. W., '41, Maj. (MC)
Quarters 353, Mitchel Field,N.Y., ALR

P

Pace, Errett, '30...City Savings Bank bldg., Paducah, Ky. ALR
Pachtman, Isadore, '37..Jenkins Arcade, Pittsburgh 22, Pa. OP
Packard, Louis A., '26.523 W. 6th, Los Angeles 14, Calif. OALR
Page, John R., '36.....127 E. 62nd, New York 21, N. Y. ALR
Page, Robert O., '38, Major (MC), 97 General Hospital,
APO 204, c/o PM, New York, N. Y. ALR
Pagliughi, John J., '41,
1915 Palisade av., Union City, N. J. ALR
Palevsky, Samuel N., '44, 22 E. Los Olivos St.,
Santa Barbara, Calif. ALR
Palmer, Arthur, '26
667 Madison av., New York 21, N. Y. ALR-PI S
Palmer, Bascom H., '28..Huntington bldg., Miami 32, Fla. OALR
Palmer, Bascom W., '36
804 Boston bldg., Salt Lake City 1, Utah OP
Palmer, F. E., '28.....Box 267, Sterling, Colo. OALR
Palmer, Mahlon Phelps, '41.....715 Lake, Oak Park, Ill. ALR
Palmer, Milton A., '41, 18 Park Blvd., Lancaster, N. Y. OP
Pannabecker, Charles L., '44,
434 Jefferson bldg., Peoria 2, Ill. OP
Park, M. Benjamin, '36.325 Ingraham bldg., Miami 32, Fla. OP
Parker, Harry L., '31.....88 East av., Lockport, N. Y. ALR
Parker, Ray, '42.....U. S. Bank bldg., Johnstown, Pa. ALR
①Parker, Walter R., '03
David Whitney bldg., Detroit 26, Mich. OP
Parrish, Robert E., '23
Medical Arts bldg., San Antonio 5, Texas OALR
Parry, Thayer L., '35....301 Ohio Bldg., Akron 8, Ohio OALR
Parsell, Louis A., '35
Paulsen Med. & Dental bldg., Spokane 8, Wash. ALR
①Parsons, J. G., '14..Crookston Clinic, Crookston, Minn. OALR
③Parsons, Sir John Herbert, '36
54 Queen Anne st., Cavendish Sq. W., London, Eng. OP
Pastore, Peter Nicholas, '42
5503 Riverside Drive, Richmond 24, Va. ALR
Patch, Orien B., '43, Major (M.C.)
205 W. 2nd St., Duluth, Minn. ALR
Paton, R. Townley, '36.927 Park av., New York 28, N. Y. OP
Paton, Walter M., '43
919 Medical Dental Bldg., Vancouver, B. C., Canada ALR
Pattee, George L., '43.612 Republic bldg., Denver 2, Colo. ALR
②Patterson, Ellen J., '17, (Retired)
504 Neville, Pittsburgh 13, Pa. ALR
③Patterson, Maj. Gen. Robert U., '33,
Off. of Dean, Schl of Med. Uni. of Md., Baltimore 1, Md. ALR
Patterson, Sam H., '44.....125 - 15th, Toledo 2, Ohio OP

②Patterson, W. E., '19
Medical Arts bldg., Minneapolis 2, Minn. OALR
Paul, Wm. C., '30...Medical Arts bldg., Tacoma 2, Wash. ALR
Pauley, Gerald E., '39,
9460 220 St., Queens Village, L. I., N. Y. ALR
Paulk, James R., '38.....Capt. (MC), Moultrie, Ga. OP
①Payne, A. L., '08.....119 S. Barstow, Eau Claire, Wis. OALR
Payne, Brittain F., '32
17 E. 72nd St., New York 21, N.Y. OP
Payne, Frank, '44...635 W. 165th, New York 32, N. Y. OP
Payne, R. J., '25...University Club bldg., St. Louis 3, Mo. ALR
Payne, V. LeRoy, '30
Simmons Nat'l bldg., Pine Bluff, Ark. ALR
Pearlman, Louis M., '39...53 E. 93rd, New York 28, N. Y. ALR
Pearlman, S. J., '24....55 E. Washington, Chicago 2, Ill. ALR
Pearson, George J., '43.....320 N. 3rd, Burlington, Iowa ALR
Pearson, Ovid, '37, 277 Alexander St., Rochester, N. Y. OALR
Peden, Barton Edward, '42.Stimson bldg., Seattle 1, Wash. ALR
Peeler, C. N., '22.....106 W. 7th, Charlotte 2, N. C. OALR
Peer, Lyndon A., '31....965 Broad, Newark 2, N. J. ALR-PI S
Peery, Vance Price, '29....Kinston Clinic, Kinston, N. C. ALR
Pegues, James Cary, '42..301 Howard st., Greenwood, Miss. ALR
Peirce, Howard W., '23
5181 Van Dyke av., Detroit 13, Mich. ALR
Pellettiere, Edmund Victor, '42
1530 N. Damon av., Chicago 22, Ill. ALR
Peluse, Samuel, '41
1930 Wilshire blvd., Los Angeles 5, Calif. ALR
Pelz, Mort D., '29....Metropolitan Bldg., St. Louis, Mo. ALR
Pember, Aubrey H., '26
500 W. Milwaukee, Janesville, Wis. OALR
Pendexter, R. Stevens, '26
Farragut Med. bldg., Washington 6, D. C. OP
Penta, John J., '43
Major (MC), 237 S. 5th St., Reading, Pa. ALR
Penta, Michael J., '39.....312 N. Fifth, Reading, Pa. ALR
Perdue, James D., '34.....P.O. Box 514, Mobile 4, Ala. OP
Perera, Charles A., '36...70 E. 66th, New York 21, N. Y. OP
Perkins, Osborn P., '39...121 E. 60th, New York 22, N. Y. OP
Perlman, Henry B., '41.....950 E. 59th, Chicago 37, Ill. ALR
Perritt, Richard A., '39
30 N. Michigan Ave., Chicago 2, Ill OP
Perrone, Joseph A., '39...Mercy Hosp., Pittsburgh 19, Pa. ALR
Perry, Claude S., '32, 40 South 3rd St., Columbus, Ohio OP
Persky, A. H., '30..1737 Chestnut st., Philadelphia 3, Pa. ALR
Peter, Beverly K., '43.....Beckley Hosp., Beckley, W. Va. ALR
Peterson, Joel A., '37
609 Lafayette Life bldg., Lafayette, Ind. ALR
Peterson, John C., '36....702 Sharp Bldg., Lincoln, Nebr. OP
Peterson, N. Vern, '37.....Highland Hall, Rye, N. Y. ALR
Peterson, Roy L., '44....218 Eastman bldg., Boise, Idaho ALR
Peterson, Wm. G., '36.....106 E. 13th, Ada, Okla. ALR
Petheram, Charles C., '31
Medical Arts bldg., Portland 5, Ore. ALR
Petruzzi, William Astor, '42
65 Pondfield Road, Bronxville, N. Y. ALR
Petti, George Hyacinth, '40, 4 Berkeley ave., Yonkers, N.Y. ALR
①Pfafflin, C. A., '03
Bankers Trust bldg., Indianapolis 4, Ind. OALR
Pfeiffer, Raymond L., '35
635 W. 165th, New York 32, N. Y. OP
Pfunder, Malcolm C., '38
Medical Arts bldg., Minneapolis 2, Minn. ALR

Phelan, Harold V., '42.....Rose bldg., Cleveland 15, Ohio **OP**
②**Phelps, Kenneth A.**, '20
Medical Arts bldg., Minneapolis 2, Minn. **OALR**
Phillips, Earl H., '44, Major (M.C.)
1704 Harrison Ave., Salt Lake City, Utah **ALR**
Phillips, James R., '43, 701 Winn Ave., Baton Rouge, La. **OP**
Phillips, James William, '41
Box 632, Newport News, Va. **OP**
Phillips, James Winston, '42
Lt. (MC), Hurst Clinic, Longview, Tex. **ALR**
Phillips, Josephine Dirion, '35
16130 Parkland Drive, Shaker Heights 20, Ohio **OP**
Phillips, Samuel A., '39....137 N. Eighth, Allentown, Pa. **OP**
Philpott, Ivan W., '40, Major (MC) 0-460285, General
Hospital 29, APO 331, c/o PM, San Francisco, Calif. **ALR**
Pickard, John C., '44..... 1200 Main st., Dubuque, Ia. **ALR**
Pierce, George W., '43...490 Post, San Francisco 2, Calif. **PI S**
Pierce, William W., '40,.....Lockport, N. Y. **ALR**
Piercy, Frederick F., '37
Home S. & L. bldg., Youngstown 3, Ohio **ALR**
Pierson, William M., '38
Medical Arts bldg., Wilmington 9, Del. **ALR**
Pike, Melvin H., '38.....Reinhart bldg., Midland, Mich. **OALR**
Pinkerton, F. J., '29.Young Hotel bldg., Honolulu 9, Ha. **OALR**
Pino, Ralph H., '35.David Whitney bldg., Detroit 26, Mich. **OP**
Pischel, D. K., '36....490 Post, San Francisco 2, Calif. **OP**
②**Pischel, Kasper**, '42..490 Post, San Francisco 2, Calif. **OP**
Piszkiewicz Frank J., '38, Major (MC), 61st Station
Hospital, APO 782, c/o PM, New York, N. Y. **ALR**
②**Pitkin, C. E.**, '17.Carnegie Med. bldg., Cleveland 6, Ohio **ALR**
Pitman, Louis K., '44
1749 Grand Concourse, New York 53, N. Y. **ALR**
Pitman, Will D., '39..First Nat'l Bank bldg., Pratt, Kans. **ALR**
Pittman, John E., '37
David Whitney bldg., Detroit 26, Mich. **OP**
Place, E. Clifford, '36....59 Livingston, Brooklyn 2, N. Y. **OP**
Platt, E. S., '43.....4 Hamilton Ave., Auburn, N. Y. **OP**
Plumer, John S., '28.121 University pl., Pittsburgh 13, Pa. **OP**
Pochert, Rolland C., '35...Matthews bldg., Owosso, Mich. **OALR**
Podboy, August J., '43, Wills Hospital,
1601 Spring Garden st., Philadelphia, Pa. **ALR**
Pohl, Robert L., '39
Lt. Col. (MC), 1104 W. 21st St., Spokane, Wash. **ALR**
Poindexter, Frank Wilmore, '41
Medical Arts bldg., Newport News, Va. **ALR**
Poirier, George H., '31.60 Bay State rd., Boston 15, Mass. **ALR**
Polan, Charles M., '44, Capt. (MC) 0-517873, Ashford
General Hospital, White Sulphur Springs, W. Va. **OP**
Pollack, Samuel, '41, 2909 W. Estes Ave., Chicago 45, Ill. **ALR**
Pollock, Frederic J., '38, Lt. Comdr. (M.C.), U.S.N.R.,
address unknown **ALR**
Pond, Casper Whittle, '38..Carlson bldg., Pocatello, Idaho **ALR**
Poos, E. E., '27.....Fisher bldg., Detroit 2, Mich. **OALR**
Pope, E. C., '30....2021 Sixth av. N., Birmingham 3, Ala. **ALR**
Porter, Byron H., '39.....18 Bank Row, Pittsfield, Mass. **ALR**
Porter, George LeRoy, '39
602 W. University Ave., Urbana, Ill. **OP**
①**Porter, L. B.**, '13.....199 Thayer, Providence 6, R. I. **OALR**
Porter, Whitney C., '35, 320 Republic Bldg., Denver 2, Colo. **OP**
Portnoy, Samuel H., '43
19 Garfield pl., Cincinnati 2, Ohio **ALR**
Posner, Adolph, '36, 667 Madison Ave., New York 21, N. Y. **OP**
②**Post, Lawrence T.**, '20
Metropolitan bldg., St. Louis 3, Mo. **OP**
②**Post, M. Hayward**, '18
Metropolitan bldg., St. Louis 3, Mo. **OP**
Post, Winfred L., '39,....804 Frisco Bldg., Joplin, Mo. **OALR**
Postle, C. D., '30.....240 E. State, Columbus 15, Ohio **ALR**
Potter, Allen B., '29.Pasteur Med. bldg., St. Louis 8, Mo. **ALR**
Potter, Jacob J., '35 Lt. Comdr. (M.C.),
Address Unknown **ALR**
Potter, W. A., '30.7450 Grand River av., Detroit 4, Mich. **ALR**
Potter, William Bently, '42
Uni. of Texas Medical College, Galveston, Tex. **OP**
Potter, Wm. W. P., '27..601 Walnut, Knoxville 30, Tenn. **OALR**
Potts, Charles R., '44, 1304 Walker av., Houston 2, Tex. **OP**
①**Potts, John B.**, '10....3817 Dewey av., Omaha 5, Nebr. **ALR**
Poulin, James E., '44, Professional Bldg., Waterville, Me. **ALR**
Powell, Archie C., '44, Lt. Comdr. (M.C.),
address unknown **ALR**
Powell, Lyle S., '28, Col. (M.C.).....Address Unknown **OALR**
①**Powers, Everett**, '16.....305 S. Main, Carthage, Mo. **OALR**
Powers, Frank P., '37....Professional bldg., Raleigh, N. C. **ALR**
Powers, Harold W., '36
705 National Reserve Bldg., Topeka, Kans. **ALR**
Powers, John T. H., '38, Major (MC), Lovell General
Hospital North, Ft. Devens, Mass. **ALR**
②**Prangen, Avery de H.**, '19
Mayo Clinic, Rochester, Minn. **OP**
①**Pratt, Fred J.**, '12
Physicians & Surgeons bldg., Minneapolis 2, Minn. **OALR**
Preefer, Charles Joseph, '41
195 Hempstead av., Rockville Centre, L. I., N. Y. **OP**
Preefer, Raymond R., '44, Maj. (M.C.)..Address unknown **OP**
Prendergast, John J., '38.2001 4th av., San Diego 1, Calif. **OP**
Presnell, C. A., '43....634 N. Grand av., St. Louis 3, Mo. **ALR**
Pressman, Joel J., '35,
615 N. Faring Road, Los Angeles 24, Calif. **ALR**
Preston, H. Grant, '30
Professional bldg., Harrisonburg, Va. **ALR**
Prewitt, Leland H., '40, Major (M.C.)
1407 E. 4th St., Ottumwa, Ia. **ALR**
①**Price, Norman W.**, '08, Hyde Park blvd. &
Lewiston rd., Route 47, Niagara Falls, N. Y. **OALR**
Priest, Robert E., '42
2100 James Ave., Minneapolis, Minn. **ALR**
Pritikin, Roland I., '41, 1211 Talcott Bldg., Rockkford, Ill. **OP**
Proctor, Bruce, '41
1419 David Whitney Bldg., Detroit 26, Mich. **ALR**
Proctor, Donald F., '44
6 East Eager St., Baltimore 2, Maryland **ALR**
Proetz, A. W., '23.....Beaumont bldg., St. Louis 8, Mo. **ALR**
Prohovnik, Julius, '44, 9 So. Kedzie av., Chicago, Ill. **ALR**
②**Prout, A. W.**, '18.....380 E. Town, Columbus 15, Ohio **OALR**
Provost, Pierre E., '41, Lt. Comdr. (M.C.) USNR
48 Green St., Augusta, Maine **ALR**
Pryor, Charles A., '37
255 So. 17th St., Philadelphia 3, Pa. **ALR**
Pryor, Will R., '37
415 Heyburn Bldg., Louisville 2, Ky. **OP**
Pugmire, Ralph W., '43.2404 Washington bldg., Ogden, Utah **OP**
Pullen, Edward Markey, '41
30 E. 40th, New York 16, N. Y. **ALR**
Pumphrey, Gordon Hughes, '42, Lt. Col. (M.C.),
Bruns General Hospital, Sante Fe, N. Mex. **OP**
Puntenney, Irving, '41.720 N. Michigan av., Chicago 11, Ill. **OP**
①**Pyle, Wallace**, '15.15 Exchange pl., Jersey City 2, N. J. **OALR**

Q

Qualls, H. W., '43. 1635 Exchange bldg., Memphis 3, Tenn. **ALR**
Quereau, James V., '44....206 N. 5th st., Reading, Pa. **OP**
Quincy, J. E., '27. 270 Commonwealth av., Boston 16, Mass. **ALR**
Quinlan, Joseph D., '43....44 Prichard, Fitchburg, Mass. **ALR**
Quinn, Francis P., '39,.....Roshek Bldg., Dubuque, Ia. **ALR**
Quinn, John L., '39.....401 Market, Steubenville, Ohio **ALR**
Quinn, Lester H., '37....4105 Live Oak, Dallas 5, Texas **OP**
Quinn, Robert E., '41
126 W. Main St., Chillicothe, Ohio **OP**
Quiring, Walter O., '35..100 First West, Hutchinson, Kan. **ALR**
①**Quittner, S. S.,** '16. 10515 Carnegie av., Cleveland 6, Ohio **OALR**

R

Rabbiner, Max, '36, 358 New York av., Brooklyn 13, N. Y. **ALR**
Rabinowitz, Paul, '38, Capt.
Mountain Sanitarium, Hamilton, Can. **ALR**
Rafferty, George E., '38.....173 N. Common, Lynn, Mass. **ALR**
Rahmanop, Walter B., '39...1426 Elm, Manchester, N. H. **ALR**
Raines, M. M., '43, 107 Live Oak Dr., Ventura, Calif. **ALR**
①**Rails, C. T.,** '16.....State Bank bldg., Winfield, Kan. **OALR**
Ralston, Frank L., '33
220 First Nat'l. Bank Bldg., Walla Walla, Wash. **OALR**
②**Ralston, Wm. W.,** '18. 1304 Walker av., Houston 2, Tex. **OP**
Ramm, Carl H., '44....508 Main st., Bennington, Vt. **OP**
Ramsay, Robert Matthews, '42, 320 Yale av., Winnipeg, Can. **OP**
Ramsey, G. Stuart, '27....1496 Mountain, Montreal, Can. **OP**
Randall, Hiram, '28.....81 Main, Binghamton, N. Y. **ALR**
Randel, Harvey O., '36
Medical Arts bldg., Oklahoma City 2, Okla. **OP**
Randolph, M. Elliott, '39, Lt. Col. (M.C.)
4302 Rugby Rd., Baltimore 10, Md. **OP**
Rankin, Charles A., '38
Ludlow and Heather Road, Upper Darby, Pa. **OP**
Raskin, Moses, '40, The Madison,
817 St. Paul st., Baltimore 2, Md. **OALR**
Ratner, Simon H., '37..3401 Fifth av., Pittsburgh 13, Pa. **ALR**
②**Ravdin, B. D.,** '19.....Hulman bldg., Evansville 18, Ind. **OALR**
①**Ravdin, M.,** '11. 1666 Bayard Pk. Dr., Evansville 14, Ind. **OALR**
Ravin, Louis C., '43.....316 Michigan, Toledo 2, Ohio **OP**
Rawlins, Aubrey Gatliff, '41
384 Post, San Francisco 8, Calif. **ALR**
Rawlins, Grove A., '39.....206A West 3rd, Alton, Ill. **ALR**
Ray, George H., '44, 914 Francis Bldg., Louisville, Ky. **OP**
Ray, Harold E., '44.....135 E. Main st., Xenia, Ohio **OP**
Ray, Victor, Jr., '32.....Carew Tower, Cincinnati 2, Ohio **OP**
①**Rector, A. E.,** '15.....Zuelke bldg., Appleton, Wis. **OALR**
Reed, Charles L., '33...Jenkins Arcade, Pittsburgh 22, Pa. **OP**
Reed, Elmer McCready, '42, Capt. (M.C.),
2835 4th av., Beaver Falls, Pa. **ALR**
Reed, James R., '37
201 N. El Molino av., Pasadena 4, Calif. **OP**
Reed, Wm. W., '30.....Mills bldg., Topeka, Kan. **ALR**
Reeder, James E., Jr., '42, Major (MC), U. S. A. General Hospital, Camp Carson, Colorado Springs, Colo. **OP**
①**Reeder, J. E.,** '16....Davison bldg., Sioux City 13, Iowa **OALR**
Reeh, Merrill J., '43.....207 W. Colfax St., Blair, Nebr. **OP**
Rees, Charles W., '38.....4496 Trias, San Diego 3, Calif. **ALR**
Reese, Algernon B., '28...73 E. 71st, New York 21, N. Y. **OP**
②**Reese, Warren S.,** '21...1901 Walnut, Philadelphia 3, Pa. **OP**
Reeves, J. Norman, '44, 121 Main st., Western Port, Md. **ALR**
Regan, James J., '32
Lt. Comdr. (M.C.), 940 Broadway, S. Boston 27, Mass. **OP**
Regan, William F., '37. 19 Bay State road, Boston 15, Mass. **ALR**
②**Reiche, O. C.,** '18.....Markle Bank bldg., Hazleton Pa. **OP**
Reid, H. W., '30...Union Central bldg., Cincinnati 2, Ohio **OP**
Reid, Thomas F., '40.....538 Central av., Dover, N. H. **ALR**
Reifsneider, J. Stanley, '38..Beacon bldg., Wichita 2, Kan. **ALR**
②**Reim, Hugo,** '20....Metropolitan bldg., St. Louis 3, Mo. **OP**
Reimers, R. S., '35....613 Eighth st., Fort Madison, Iowa **ALR**
Reineke, George F., '26...Fritsche bldg., New Ulm, Minn. **OALR**
②**Repass, R. E.,** '20, 925 N. E. 78th St., Miami 38, Fla. **ALR**
Reuling, F. H., '24.....Black bldg., Waterloo, Iowa **OALR**
Reuter, Carl H., '39
First Nat'l Bank bldg., Springfield, Ohio **OP**
Reynolds, Edna M., '37..227 Sixteenth st., Denver 2, Colo. **OP**
①**Reynolds, H. G.,** '09
Citizens Sav. Bank bldg., Paducah, Ky. **OALR**
Rhode, Homer J., '38.....220 N. 6th, Reading, Pa. **OP**
Rhode, Solon L., '28.....238 N. 6th, Reading, Pa. **OALR**
Rhodes, David H., '37.....Clark bldg., Pittsburgh 22, Pa. **OP**
Ricchiuti, A. George, '41, Major (MC)
226 W. Mahanoy Ave., Mahanoy City, Pa. **ALR**
Rice, Carl E., '38....6500 Maple av., Chevy Chase 15, Md. **OP**
Rice, John E., '24.....390 Main, Worcester 8, Mass. **OALR**
Richards, Lyman G., '24,
15 Whiting rd., Wellesley Hills, Mass. **ALR**
Richardson, George A., '38
1532 Overington, Philadelphia 24, Pa. **ALR**
Richardson, J. J., '29
Cook Hosp. and Beal Clinic, Ft. Worth 3, Texas **ALR**
Richardson, John R., '37
403 Commonwealth av., Boston 15, Mass. **ALR**
Richardson, John Roberts, '40
722 DuPont Bldg., Miami, Fla. **ALR**
Richardson, Shaler, '25. 111 W. Adams, Jacksonville 2, Fla. **OP**
②**Richie, L. T.,** '18.....101 E. Main, Trinidad, Colo. **OALR**
Richman, Frances, '35, Lt. Comdr. (MC)
U. S. Naval Hospital, Oakland 14, Calif. **OP**
Richter, Harry Joseph, '40
604 2nd Nat'l. Bank Bldg., Saginaw, Mich. **ALR**
Ricketts, Floyd Blythe, '41
Veterans Hospital, Minneapolis 6, Minn. **ALR**
Ridall, Earle G., '41, Major (M.C.)
91 Durland Ave., Elmira, N. Y. **ALR**
Riddell, Malcolm M., '35.....112½ Front, Fremont, Ohio **ALR**
Ridout, George B., '40, 1836 South Ave., La Crosse, Wis. **ALR**
①**Ridpath, Robert F.,** '14
1737 Chestnut st., Philadelphia 3, Pa. **LR**
Rieger, W. H., '24.....Hanna bldg., Cleveland 15, Ohio **ALR**
Rigby, Ralph G., '44
837 Boston Bldg., Salt Lake City, Utah **ALR**
Rigg, J. P., '30.....Box 928, Grand Junction, Colo. **OALR**
Riggs, Ralph H., '42, Comdr. (MC) USNR
586 Oneonta St., Shreveport, La. **ALR**
Rigley, Edward L., '34
408 Sherland bldg., South Bend 9, Ind. **ALR**
Riker, Aaron D., '34.....Riker bldg., Pontiac 15, Mich. **OP**
Rimer, Frank H., '35...Jenkins Arcade, Pittsburgh 22, Pa. **ALR**
①**Rindlaub, Elizabeth P.,** '10
321 Eighth st. S., Fargo, N. D. **OALR**
①**Rindlaub, John H.,** '06..321 Eighth st. S., Fargo, N. D. **OALR**
①**Ringle, Charles A.,** '07.....912 Ninth av., Greeley, Colo. **ALR**
Risch, Otto Carl, '35....104 E. 40th, New York 16, N. Y. **ALR**

Risdon, E. F., '24. Medical Arts bldg., Toronto 5, Can. ALR-PI S
Riseman, Benjamin, '40, 15 Maybrook st., Dorchester, Mass. ALR
Riser, Roy Otis, '38.....120 Main, Park Ridge, Ill. OP
Risser, E. D., '28. 423 First Trust bldg., Pasadena 1, Calif. OALR
Riter, Kersey C., '43
The Budge Clinic, 3 North Main, Logan, Utah ALR
Rittenhouse, Emory A., '44
1610 Baillie Ave., McKeesport, Pa. ALR
Riwchun, Meyer H., '34, 860 W. Ferry St., Buffalo, N. Y. OP
Rizzuti, A. Benedict, '42..160 Henry st., Brooklyn 2, N. Y. OP
Robb, James M., '37
David Whitney bldg., Detroit 26, Mich. ALR
Robb, Mayo, '29.....Professional bldg., Phoenix, Ariz. ALR
Robbins, Clarence Edward, '41
111 S. Huron av., Pierre, S. D. ALR
Robert, Joseph X., '36.....170 St. George, Toronto, Can. ALR
Roberts, A. Warren, '37.....209 Pine, Texarkana, Texas OALR
Roberts, Gilbert Jay, '42
Lt. Comdr. (M.C.), 586 N. Main st., Pomona, Calif. ALR
Roberts, John L., '39, Comdr. (MC)
Naval Station, Memphis 15, Tenn. OP
Roberts, Joseph D. Jr., '37, Lt. Cmdr. (M.C.),
Dispensary, NAAS, Mayport, Fla. ALR
①Roberts, S. E., '16. Professional bldg., Kansas City 6, Mo. ALR
①Roberts, William H., '03,
335 Westbourne St., La Jolla, Calif. OALR
Robertson, E. Norris, '43, Lt. (MC), U. S. S. Panamint
(AGC 13), Fleet Post Office, San Francisco, Calif. OP
②Robertson, Edward N., '18
New Caldwell bldg., Concordia, Kan. OALR
Robison, J. M., '43....1304 Walker av., Houston 2, Texas ALR
Robison, J. T., '30.....Norwood bldg., Austin 16, Texas ALR
Rock, John Emmett, '40....Putnam bldg., Davenport, Iowa ALR
Rodin, Frank H., '37....490 Post, San Francisco 2, Calif. OP
Roemaet, Charles M., '37
9404 207th, Queens Village 8, N. Y. ALR
①Rogers, James T., '12..Medical Arts bldg., Montreal, Can. ALR
Rogers, John B., '38..1401 S. Hope, Los Angeles 15, Calif. OP
Roh, Robert F., '37, Lt. Comdr. (MC)
727 Glen Ave., Westfield, N. J. ALR
Rohm, Robert Franklin, '42
7002 Jenkins Arcade, Pittsburgh 22, Pa. OP
Rolett, D. M., '37.....876 Park av., New York 21, N. Y. OP
Roling, Edward A., '38. 2753 W. North av., Chicago 47, Ill. OP
Rome, Sol, '41, Capt. (M.C.), Port Dispensary,
Ft. Mason, San Francisco, Calif. OP
②Rommel, John C., '20, 4601 N. Broad,
Philadelphia 40, Pa. OP
Romonek, Philip L., '29
415 N. Camden Dr., Beverly Hills, Calif. OALR
Rones, Benjamin, '35
1610 Eye st. N. W., Washington 6, D. C. OP
Ronis, B. J., '43....7141 Elmwood Ave., Philadelphia, Pa. ALR
②Rooker, A. M., '20..United bldg., Niagara Falls, N. Y. ALR
Roper, Kenneth L., '42
58 E. Washington St., Chicago 2, Ill. OP
Rosedale, Raymond Samuel, '42
610 N. Market av., Canton 2, Ohio ALR
Rosen, David M., '43..19 W. 55th st., New York 19, N. Y. ALR
Rosen, Emanuel, '43, Capt. (MC)
730 8th St., Miami Beach, Fla. OP
Rosen, Sam, '37.....101 E. 73rd, New York 21, N. Y. ALR
Rosenbaum, Harry D., '39
7310 Cornell, University City 5, Mo. OP
①Rosenbaum, J., '15
1396 St. Catherine's st. W., Montreal, Can. OP
Rosenberg, Joseph, '36.....333 Linwood, Buffalo 9, N. Y. ALR
Rosenberger, H. C., '29
10515 Carnegie av., Cleveland 6, Ohio ALR
Rosenberger, Henry P., '36
221 Fifth st., Bismarck, N. D. ALR
Rosenbluth, Michael, '31
225 West 106th, New York 25, N. Y. ALR
Rosenthal, Benjamin Charles, '40
140 New York av., Brooklyn 16, N. Y. OP
Rosenwasser, Harry, '36
101 E. 73rd st., New York 21, N. Y. ALR
Ross, Cecelia, '41
1930 Wilshire Blvd., Los Angeles 5, Calif. OP
Ross, John, '36.....6 E. 70th, New York 21, N. Y. ALR
also 37 Oriole av., Bronxville, N. Y.
Ross, Percy J., '39, Lt. Col. (M.C.)..Keesler Field, Miss. ALR
Rossman, Morris M., '40
115 North Main St., Freeport, N. Y. ALR
Roszell, Leo H., '44
Lt. (MC), Ridgetown, Ontario, Canada OP
Rothberg, Maurice, '40
712 Wayne Pharm. Bldg., Ft. Wayne, Ind. OP
Rothenberger, Marvin K., '43. 206 N. 8th st., Allentown, Pa. ALR
②Rothschild, Harold J., '20
Lowry Medical bldg., St. Paul 2, Minn. OALR
①Rott, O. M., '15
1828 W. 1st av., Apt. C, Spokane 9, Wash. OALR
Rouse, H. K., Jr., '41,
McWilliams Clinic, Box 174, Gulfport, Miss. OP
Row, D. Hamilton, '35, Comdr. (MC)
Nav. Disp. Navy Dept., Washington, D. C. OP
Rowen, Ernest Henry, '40.....Box 570, Miles City, Mont. ALR
Rowland, Ivo E., '38.....5th and McKean, Charleroi, Pa. ALR
Rowland, W. D., '23
180 Commonwealth av., Boston 16, Mass. OP
Royals, Walter C., '38, Col. (M.C.).....Address unknown OP
Royer, Charles A., '43,
3541 N. W. 24th St., Oklahoma City, Okla. OP
①Rubendall, C., '15. Medical Arts bldg., Omaha 2, Nebr OALR
Rubenstein, A. Harry, '30
Medical Arts bldg., Syracuse 2, N. Y. ALR
Rubin, Henry J., '43, Capt. (M.C.)
611 N. Stanley Ave., Los Angeles 36, Calif. ALR
Rubin, Herman G., '43...159 S. Main St., Akron, Ohio ALR
Rubin, Milton R., '40
504 Broadway, Suite 725, Gary, Ind. ALR
Rubin, Nathan S., '36
404-407 Blount Bldg., Pensacola, Fla. OP
Rubright, LeRoy W., '37,
604 Atkinson Ave., Detroit 2, Mich. ALR
①Ruby, F. McK., '08.....235 W. Pearl, Union City, Ind. OALR
Ruchman, Jacob, '41..301 Brooklyn av., Brooklyn 13, N. Y. ALR
Rucker, C. W., '29.....Mayo Clinic, Rochester, Minn. OP
①Rucker, E. W., Jr., '16
Woodward bldg., Birmingham 3, Ala. ALR
Rudolph, Carl J., '39,
2016 East Madison St., South Bend, Ind. OP
Rudolph, Edward A., '42. 624 Citizens bldg., Aberdeen, S. D. OP
Rudolphy, J. B., '29.....230 S. 21st, Philadelphia 3, Pa. OP
Ruedemann, A. D., '29
Cleveland Clinic, Cleveland 6, Ohio OP
Ruggeri, Charles Jr., '44
1120 Boston bldg., Salt Lake City 1, Utah. OP

Runk, R. L., '29, Washington Sanitarium and Hospital, Tacoma Park, Washington 12, D. C. ALR
Rusk, Harvey Schenck, '40, Colorado bldg., Pueblo, Colo. OALR
Russell, Daniel A., '36 Medical Arts bldg., San Antonio 5, Texas ALR
Russell, J. A. Merle, '22.....813 Sassafras, Erie, Pa. OALR
Russell, Martin V., '42...200 W. Elm st., El Dorado, Ark. ALR
Russell, R. E., '24....803 Waterloo bldg., Waterloo, Iowa OALR
Russell, Ralph Edward, '44.....Ocala, Fla. OP
Russell, Roland D., '31 Room 808, Professional bldg., Elgin, Ill. ALR
Russell, Sidney Benteen, '42 Midelfart Clinic, Eau Claire, Wis OALR
Rutherford, C. W., '25 4601 N. Pennsylvania st., Indianapolis 5, Ind. OP
Rutterberg, Max, '39.....303 Cooper, Camden, N. J. ALR
Ryall, George W., '37, 17010 Kinsman Road, Shaker Heights, Cleveland 20, Ohio ALR
Ryan, Edward P., '40, Lt. Comdr. (MC) USNR 18 Fairview Rd., Scarsdale, N. Y. OP
Ryan, L. M., '27.....Wall bldg., St. Louis 8, Mo. ALR
Ryan, Maurice J., '40, 2016 Elizabeth Ave., Kansas City 2, Kans. ALR
Ryan, M. D., '36....660 Madison av., New York 21, N. Y. ALR
Ryan, Michael J., '44, 310 Huron Bldg., Kansas City 10, Kans. ALR
Rychener, Ralph O., '28...130 Madison, Memphis 3, Tenn. OP
①Ryder, D. R., '11 .....151 Rock, Fall River, Mass. ALR
Ryder, William H., '43 195 Church St., New Haven 10, Conn. OP
Ryerson, F. L., '25.....Fine Arts bldg., Detroit 26, Mich. OALR

S

②Sacco, Anthony G., '20 2200 New York av., Union City, N. J. OALR
Sacheroff, Louis, '43, Capt. (M.C.).....Address unknown ALR
Sachs, Benjamin, '35.....520 Beacon, Boston 15, Mass. OP
Sackin, David, '33 St. Moritz, 50 Central Pk. S., New York 19, N. Y. ALR
Sadoff, Irvin E., '43, Capt. (M.C.), 1045 North av., Elizabeth 4, N. J. ALR
Safer, Louis A., '39 Provident Bank bldg., Cincinnati 2, Ohio ALR
Sage, Harry M., '37 2194 N. Parkway Dr., Columbus 8, Ohio OP
Sage, Russell A., '36..505 23 E. Ohio, Indianapolis 4, Ind. ALR
St. Clair, C. T., '30....Bland & Ramsey, Bluefield, W. Va. ALR
St. John, Dewey, '40..Metropolitan bldg., St. Louis 3, Mo. ALR
Sakler, Barnet R., '39, Capt. (M.C.), 695 N. Crescent, Cincinnati 29, Ohio OP
②Salinger, Samuel, '20..25 E. Washington, Chicago 2, Ill. ALR
②Sallander, F. W., '19.....212 W. Main, Visalia, Calif. OALR
Salls, Frederick H., '41..132 Union av., Framingham, Mass. OP
Salmon, David L., '40, Major (M.C.) Noel Ave., Madisonville, Ky. ALR
Saltzman, Samuel L., '39.334 W. 86th, New York 24, N. Y. OP
Samponaro, Nicholas, '43, Comdr. (M.C.), U.S.N.R., U. S. Naval Hospital, Quantico, Va. ALR
Samuels, Bernard, '29....57 W. 57th, New York 19, N. Y. OP
Sanders, J. Gillis, '29 714 Merchants Nat'l Bank bldg., Mobile 11, Ala. ALR
Sanders, John Levis, '41.....222 N. Main, Greenville, S. C. ALR
Sanders, Sam H., '32..1089 Madison av., Memphis 3, Tenn. ALR
Sanders, Theodore E., '38 Metropolitan bldg., St. Louis 3, Mo. OP
②Sanderson, David D., '17..Stuart bldg., Lincoln 8, Nebr. OALR
Sandt, Karl E., '40 1750 Medical Arts Bldg., Minneapolis 2, Minn. OP
Sanor, Daniel G., '28....206 E. State, Columbus 15, Ohio ALR
Sarno, J. Frederick, '42 109 S. William st., Johnstown, N. Y. ALR
Sarnoff, Jack, '41, Capt (M.C.), Regional Hospital, Camp Shelby, Miss. ALR
Saskin, Edward, '42..855 St. Marks av., Brooklyn 13, N. Y. OP
Saslaw, Lewis Benjamin, '41 Bank of America bldg., Stockton 5, Calif. ALR
Sauer, John J., '43....30 E. 40th st., New York 16, N. Y. OP
①Sauer, W. E., '04.Beaumont Med. bldg., St. Louis 8, Mo. ALR
①Sauer, W. W., '10.....231 Third st., Marietta, Ohio OALR
Saunders, Truman L., '36.103 E. 65th, New York 21, N. Y. ALR
Savery, C. E., '28...230 Sherland bldg., South Bend 9, Ind. OALR
Savitt, Louis, '40.....3403 Lawrence av., Chicago 25, Ill. ALR
Sawyer, Leroy L., Jr., '34 Farragut Med. bldg., Washington 6, D. C. ALR
Sayad, William Y., '32 Harvey bldg., West Palm Beach, Fla. OALR
Scal, J. Coleman, '26..10 E. 96th st., New York 28, N. Y. ALR
①Scales, J. L., '15 Medical Arts bldg., Shreveport 45, La. OALR
Scales, Wm. McVey, '41, 100 N. Main, Hutchinson, Kans. OP
Scanio, Joseph Charles, '40 333 Linwood av., Buffalo 9, N. Y. ALR
Scanlon, Wilko Gruver, '42 201 N. El Molino av., Pasadena 4, Calif. ALR
②Scarlett, Hunter W., '19, 825 Montgomery av., Bryn Mawr, Pa. OP
Scarney, Herman D., '33, Capt. (M.C.) USNR 573 Fisher Bldg., Detroit 2, Mich., OP
Schall, LeRoy A., '27....243 Charles st., Boston 14, Mass. ALR
①Schappert, N. Louis, '16 59 S. Washington, Wilkes Barre, Pa. OALR
Schattner, Alfred, '44..115 E. 61st St., New York, N. Y. ALR
Schechter, Solomon P., '35 1749 Grand Concourse, New York 53, N. Y. ALR
Schechtman, Charles T., '37 81 W. Main, New Britain, Conn. ALR
Scheer, Henry M., '32 522 West End av., New York 24, N. Y. ALR
Scheffer, Milton Morris, '43 55 E. Washington st., Chicago 2, Ill. OP
Scheie, Harold G., '41 313 S. 17th St., Philadelphia 3, Pa. OP
②Schenck, C. P., '20 Med. Arts bldg., Fort Worth 2, Texas OALR
Schenck, Harry P., '37 1912 Spruce St., Philadelphia 3, Pa. ALR
Scheribel, Karl J., '39....55 E. Washington, Chicago 2, Ill. OP
Schiefelbein, Harry T., '31 Stevens Clinic Hosp., Welch, W. Va. OP
Schillinger, Raphael, '34 c/o Interchemical Corp, 1120 Commerce Ave, Union, N.J. ALR
Schirack, C. J., '36.817 Cleveland av. N.W., Canton 3, Ohio ALR
②Schlanser, A. E., '21, Col. (M.C.) 2245 Mt. View Place S. E., Washington, D. C. OALR
Schlessel, Louis, '39, Major (M.C.), ...Address Unknown ALR
①Schlindwein, G. William, '15....138 W. 9th, Erie, Pa. OALR
Schlivek, Kaufman, '25.1016 Fifth av., New York 28, N. Y. OP
Schluer, Elmer P., '30, Major (MC) 7317 Stanford Ave., University City 5, Mo. ALR

Schmidt, Herbert G., '34
411 E. Mason st., Milwaukee 2, Wis. **OALR**

Schmidt, James M., '37..40 S. Oxford, Brooklyn 17, N. Y. **ALR**

Schmidt, Otto V. M., '32..568 Park av., New York 21, N. Y. **ALR**

Schnebly, John Thomas, '41
900 17th St., N. W., Washington 6, D. C. **OP**

Schneck, Nathan, '31, Rock Is. Bank bldg., Rock Is., Ill. **ALR**

Scholz, Roy O., '43
1515 Pentridge Rd., Baltimore 12, Md. **OP**

①**Scholz, R. P., '16**...Metropolitan bldg., St. Louis 3, Mo. **ALR**

Schoofs, O. P., '36
324 E. Wisconsin av., Milwaukee 2, Wis. **ALR**

Schoolman, Joseph G., '42,
104 S. Michigan, Chicago 3, Ill. **ALR**

Schrimpf, Cyril Edward, '41
229 Doctors Bldg., Cincinnati, Ohio **OP**

Schroeder, Milo Carl, '40,
Loma Linda Sanitarium, Loma Linda, Calif. **ALR**

Schubert, Clarence K., '33
1 S. Pinckney, Madison 3, Wis. **OP**

Schugt, Henry P., '33..122 E. 76th, New York 21, N. Y. **ALR**

Schultz, Abraham, '40, Major (MC)
ASF Pers. Repl. Depot, Camp Beale, Calif. **OP**

Schultz, Jacob F., '39, 1304 Walker av., Houston, Texas **OP**

Schuster, Frank P., '27
1st Nat'l Bank bldg., El Paso, Texas **OALR**

Schuster, S. A., '24..1st Nat'l Bank bldg., El Paso, Texas **OALR**

Schutz, Joseph A., '40..2804 Main st., Buffalo 14, N. Y. **OP**

Schutz, Sigmund, '44
105 West 55th St., New York, N. Y. **OP**

Schwartz, A. A., '27.....7 W. 71st, New York 23, N. Y. **ALR**

②**Schwartz, Frederick O., '19**, 508 N. Grand blvd.,
St. Louis 3, Mo., and 230 E. Main, Belleville, Ill. **OP**

Schwartz, Harry, '42
1749 Grand Concourse, New York 53, N. Y. **OP**

Schwartz, Hugh W., '39
183 S. Park, Halifax, Nova Scotia **ALR**

Schwartz, Leo, '35.....136 E. 57th, New York 22, N. Y. **ALR**

Schwartz, V. J., '29 Med. Arts bldg., Minneapolis 2, Minn. **ALR**

Schwartz, William A., '28
320 Professional bldg., Phoenix, Ariz. **OALR**

Schwarz, Gerald T., '43
10515 Carnegie av., Cleveland 6, Ohio **OP**

Sciarretta, Sylvio A., '31..55 E. Washington, Chicago 2, Ill. **ALR**

Scobee, J. Edwin, '40,
6253 Hollywood Blvd., Los Angeles, 28, Calif. **ALR**

Scobee, Richard G., '43
640 S. Kingshighway, St. Louis 10, Mo. **OP**

Scurti, Bernard V., '43, Lt. (M.C.),
51 Harmon st., Brooklyn 21, N. Y. **ALR**

①**Searcy, H. B., '12**.....2501 Sixth st., Tuscaloosa, Ala. **OALR**

Secoy, Harry R., '35.....Central bldg., Everett, Wash. **ALR**

②**Sedgwick, O.W., '17**.....Ionia, Mich. **OALR**

①**Sedwick, W. A., '16**.....Republic bldg., Denver 2, Colo. **OP**

Seelig, Charles Arthur, '40, Lt. (M.C.), U.S.N.R.,
80-09 35 Ave., Jackson Heights, L. I., N. Y. **ALR**

Segal, Samuel, Jr., '33
117 Daviston St., Springfield, Mass. **ALR**

Seip, Walter R., '43, Professional Bldg., Pittsburgh, Pa. OP

Seletz, Abraham, '36.Med. Arts bldg., Charleston 1, W. Va. **ALR**

①**Selfridge, G. L., '08**
1000 California st., San Francisco 8, Calif. **ALR**

Seligman, Albert E., '39
41 Forest av., Staten Island 1, N. Y. **ALR**

Seligstein, Milton B., '26
Union Planters Bank bldg., Memphis 3, Tenn. **OALR**

Selinger, Elias, '35....104 S. Michigan av., Chicago 3, Ill. **OALR**

Selinger, Samuel, '33
413 Sixtieth st., West New York, N. J. **OALR**

②**Sellers, L. M., '20**.....1719 Pacific, Dallas 1, Texas **ALR**

Seltz, Samuel, '31.....Doctors bldg., Cincinnati 2, Ohio **ALR**

Seltzer, Albert Pincus, '42
1332 N. Franklin st., Philadelphia 22, Pa. **ALR**

Semenov, Herman, '35, Major (MC)
Hoff General Hospital, Santa Barbara, Calif. **ALR**

Senecal, Alphonse L., '44, 1 Monument Sq., Beverly, Mass. **ALR**

Senturia, Ben H., '39, 6355 Waterman, St. Louis, Mo. **ALR**

①**Sewall, E. C., '08**
430 El Escarpado, Stanford U., Palo Alto, Calif. **ALR**

Seward, Jackson A., '31..115 E. 61st, New York 21, N. Y. **ALR**

①**Seydell, Ernest M., '13**
First Nat'l Bank bldg., Wichita 2, Kan. **ALR**

Shafer, Albert H., '36, Lt. Col. (M.C.),
E. Greenman Road, Haddonfield, N. J. **ALR**

Shaffer, D. Howard, '37
7036 Jenkins Arcade, Pittsburgh 22, Pa. **OP**

Shaffer, Harry Gard, '40....225 Cherry st., Clearfield, Pa. **ALR**

②**Shahan, W. E., '17**..Metropolitan bldg., St. Louis 3, Mo. **OP**

Shambaugh, George E. Jr., '38
122 S. Michigan av., Chicago 3, Ill. **ALR**

Shanedling, Philip D., '43, Lt. (M.C.),
6832 Paxton, Chicago 49, Ill. **OP**

①**Shannon, C. E. G., '10**.1930 Chestnut, Philadelphia 3, Pa. **OP**

Shannon, Clarence William, '31
New 4th and Pike bldg., Seattle 1, Wash. **OP**

Shannon, James B., '36
66 S. Fullerton av., Montclair, N. J. **ALR**

Shannon, L. M., '36..66 S. Fullerton av., Montclair, N. J. **ALR**

②**Shapero, I. M., '19**...289 Alexander, Rochester 7, N. Y. **OALR**

Shapira, Theo. M., '34....58 E. Washington, Chicago 2, Ill. **OP**

Shapiro, S. L., '30
25 E. Washington Street, Chicago 2, Ill. **ALR**

Sharp, Benjamin S., '26, Major (M.C.),
245 Freeman Pkwy, Providence, R. I. **OALR**

①**Shastid, T. H., '09**....202 W. Superior, Duluth 2, Minn. **OP**

①**Shawhan, Glenn E., '13**
Dewey Scales bldg., Nampa, Idaho **OALR**

①**Shea, J. J., '16**...1018 Madison av., Memphis 3, Tenn. **ALR**

Sheahan, William L., '26.59 College, New Haven 10, Conn. **OALR**

Shearer, George M., '37, 25 Spruce St., Jamestown, N. Y. **ALR**

Shearer, Harry A., '39.....405 E. Grand av., Beloit, Wis. **ALR**

②**Shellman, John L., '17**
Box 2, Pacific Palisades, Calif. **OP**

②**Shemeley, William G., Jr., '19**
7 Haddan av., Camden, N. J. **OALR**

Shepard, Emerson P., '37..72 W. Second, Chillicothe, Ohio **ALR**

Shepard, Warren Brundage, '41
Jenkins Arcade, Pittsburgh 22, Pa. **ALR**

Shepherd, Elmer Roberts, '41
1746 K st. N.W., Washington 6, D. C. **ALR**

Sheppard, Ernest A. W., '36
927 17th st. N. W., Washington 6, D. C. **OP**

Sheppard, Louis Benjamin, '37
Suite 301 Medical Arts Bldg., Richmond, Va. **OP**

Sher, Maurice A., '38
5022 Fifteenth av., Brooklyn 19, N. Y. **ALR**

①**Sherman, A. Edward, '08, Lt. Col. (M.C.), (retired),**
Route 1, Box 1401, La Mesa, Calif. **OALR**

Sherman, Arthur E., '39
Capt. (M.C.), O'Reilly Gen. Hosp., Springfield, Mo. **OP-PLS**

Sherman, A. Russell, '33.....671 Broad, Newark 2, N. J. **OP**
①**Sherman, Elbert S., '12**.....671 Broad, Newark 2, N. J. **OP**
Sherman, R. Newton, '34
Phoenix bldg., Bay City, Mich. **OALR**
①**Shields, J. M., '15**..Metropolitan bldg., Denver 2, Colo. **OP**
Shilling, Raymond L., '42, Capt. (M.C.), 0-388970,
113th Evacuation Hosp., APO 349A c/o PM, New York, N.Y. **ALR**
Shipley, J. L., '33, Capt. (M.C.),
213 Middle st., Portsmouth, Va. **OALR**
Shipman, James S., '35, 514 Cooper, Camden, N. J.
and 255 S. 17th, Philadelphia 3, Pa. **OP**
②**Shiras, Howard H., '20**,
13302 Cormere av., Cleveland 20, Ohio **OP**
Shlossberg, Frank Ronald, '41
116 Emerson st., Haverhill, Mass. **ALR**
②**Shoemaker, Ferdinand, '20**
3232 Harrison, Kansas City 3, Mo. **OALR**
②**Shoemaker, S. A., '17**....613 S. Hyer st., Orlando, Fla. **OALR**
Shope, Edward Pierce L., '32
807 Wilson bldg., Camden, N. J. **OP**
Shorr, Abraham, '40
225 Eastern Parkway, Brooklyn 16, N. Y. **ALR**
Shumaker, Phil W., '39
9730 Wilshire blvd., Beverly Hills, Calif. **ALR**
②**Shuman, G. H., '17**....351 Fifth av., Pittsburgh 22, Pa. **OP**
①③**Shurly, Burt R., '03**
62 Adams av. W., Detroit 26, Mich. **ALR**
Shurtleff, Raymond S., '41
2224 Harrison st., Davenport, Ia. **ALR**
Shuster, B. H., '29.....1824 Pine, Philadelphia 3, Pa. **ALR**
Sidwell, C. E., '29.....608 Fourth av., Longmont, Colo. **ALR**
Siegel, Francis X., '22
Union Central bldg., Cincinnati 2, Ohio **OALR**
Siewert, Otto Lucht, '42, Capt. (M.C.), 0-468093,
Address Unknown **OP**
Silberman, Meyer, '38,
266 Brooklyn av., Brooklyn 13, N. Y. **ALR**
②**Silbernagel, C. E., '18**..247 E. State, Columbus 15, Ohio **OALR**
Silcox, Louis Edward, '40,
255 S. 17th St., Philadelphia 3, Pa. **ALR**
Silverberg, Joseph S., '39
755 Ocean av., Brooklyn 26, N. Y. **ALR**
Silverberg, Samuel Joshua, '40,
315 Whitney av., New Haven 11, Conn. **ALR**
Simkins, James J., '37..1737 Chestnut, Philadelphia 3, Pa. **ALR**
Simmonds, Noel T., '38.....1404 Murray, Alexandria, La. **OP**
Simmons, J. Thomas, '43.....316 W. 10th st., Erie, Pa. **OP**
Simon, Emanuel, '32, Lt. Comdr. (M.C.),
577 Western av., Albany, N. Y. **ALR**
Simons, Harold, '44.....725 4th st., Marysville, Calif. **OP**
Simons, Leander T., '42,
1039 Medical Arts bldg., St. Paul 2, Minn. **OP**
Simons, Max, '41, Major (M.C.),
2580 N. W. Mildred st., Portland 10, Ore. **ALR**
Simons, N. S., '30....MacCornack Clinic, Whitehall, Wis. **ALR**
Simonton, Kinsey M., '41, Major (M.C.), 248 General Hosp.
APO 75, c/o P.M., San Francisco, Calif. **ALR**
Simpson, G. Victor, '31,
1712 Rhode Island ave, Washington 6, D. C. **OP**
②**Simpson, H. Lee, '20**
David Whitney bldg., Detroit 26, Mich. **ALR**
Simpson, John R., '29, Med. Arts bldg., Pittsburgh 13, Pa. **ALR**
Simpson, M. B., '30..Professional bldg., Kansas City 6, Mo. **ALR**
Simpson, Robert K., '39, Col. (M.C.), Hdqrs. F.E.A.F.,
APO 925, c/o PM, San Francisco, Calif. **OP**
①**Simpson, W. Likely, '11**
Physicians and Surgeons bldg., Memphis 3, Tenn. **OALR**
Sims, James Lawrence, '42, Capt. (M.C.),
1489 S.C.U., Kennedy General Hosp., Memphis, Tenn. **ALR**
Sinamark, Andrew, '28.....Power bldg., Hibbing, Minn. **OALR**
Singleton, John D., '37..2514 Oak Lawn, Dallas 4, Texas **ALR**
Sitchevska, Olga L., '32..30 Fifth av., New York 11, N. Y. **OP**
Sitney, Julian J., '43, Capt. (M.C.),
c/o M. D. Sitney, 1298 Parkwood blvd.,Schenectady 8, N.Y. **OP**
Skillern, S. R., Jr., '25.....1734 Pine, Philadelphia 3, Pa. **ALR**
Skirball, Joseph J., '27
353 Commonwealth av., Boston 15, Mass. **OP**
Sklarow, Louis, '44.....43 Center st., Gowanda, N. Y. **ALR**
Skow, John D., '39...2001 Collingwood av., Toledo 2, Ohio **OP**
Slack, Walter K., '34...308 Eddy bldg., Saginaw 3, Mich. **ALR**
②**Sloan, Henry L., '19**.....106 W. 7th, Charlotte 2, N.C. **OP**
Sloane, Albert E., '38..416 Marlborough, Boston 15, Mass. **OP**
Sloane, H. O., '30.....1717 Pine, Philadelphia 3, Pa. **OP**
Sly, John L., '33.....382 Springfield av., Summit, N. J. **ALR**
Small, Mary Louise, '38.....18 W. Read, Baltimore 1, Md. **OP**
Smart, Robert Edwin, '42
Medical Arts bldg., Ottawa, Ontario, Can. **OP**
Smedal, Erling A., '44, 456 W. Park av., Mansfield, Ohio **OP**
Smiley, Wm. A., '38,
104 S. Michigan Ave., Chicago 3, Ill. **ALR**
Smit, William M., '28
5285 Washington blvd., St. Louis 8, Mo. **ALR**
Smith, Alma C., '36, Capt. (M.C.), U.S.N.,
U. S. Naval Hospital, Farragut, Idaho **OALR**
Smith, Austin T., '39, 1830 Spruce st., Philadelphia 3, Pa. **ALR**
Smith, Carlie Souter, '27...Holland bldg., Springfield, Mo. **OALR**
Smith, Carroll L., '29
Paulsen Med. & Dental bldg., Spokane 8, Wash. **OALR**
Smith, Clarence H., '37..140 E. 54th, New York 22, N. Y. **ALR**
②**Smith, D. S., '18**....State Bank bldg., La Crosse, Wis. **OALR**
Smith, Dennis V., '44....110 Pine st., Long Beach, Calif. **OP**
①**Smith, E. Terry, '12**..P. O. Box 42, West Hartford, Conn. **OP**
Smith, Ernest Gerard, '41.339 N. Duke, Lancaster, Pa. **OP**
Smith, Eugene C., '36
814 Mott Foundation bldg., Flint 3, Mich. **OALR**
Smith, Ferris, '33
Blodgett Med. bldg., Grand Rapids 6, Mich. **ALR-PI S**
Smith, Franklin C., '39
2219 Radcliff av., Charlotte 4, N. C. **OP**
①**Smith, George B., '14**.....Harbin Hosp., Rome, Ga. **OALR**
Smith, George H., '38, Maj. (M.C.), ...Address Unknown **ALR**
②**Smith, H. A., '18**, 226 N. Greenleaf av., Whittier, Calif. **OALR**
Smith, H. Brooks, '40.....303 S. Main, Bluffton, Ind. **OP**
Smith, Harold D., '39, Major (M.C.),
197 Garfield Ave., Pomona, Calif. **ALR**
Smith, Henry B., '37.131 Fulton av., Hempstead, N. Y. **ALR**
Smith, Henry C., '38.....Doctors bldg., Nashville 3, Tenn. **OP**
Smith, Herschel S., '42, 536 S. State St., Springfield, Ill. **OP**
Smith, Hiram J., '38..30 N. Michigan av., Chicago 2, Ill. **OP**
Smith, I. Ruebert, '39....116 College st., Toronto, Can. **ALR**
Smith, J. Allen, '39.....Doctors bldg., Macon, Ga. **ALR**
Smith, James Morrisset., '31
123 E. 53rd, New York 22, N. Y. **ALR**
Smith, James W., '37..1016 Fifth av., New York 28, N. Y. **OP**
Smith, Jay D., '38.....813 N. 2nd st., Harrisburg, Pa. **ALR**
Smith, Josiah E., '39..60 Meeting st., Charleston 1, S. C. **OALR**
Smith, Leon, '39.....467 Linwood av., Buffalo 9, N. Y. **ALR**
Smith, Leslie M., '43, Sr. Surgeon USPHS,
U. S. Marine Hospital, New Orleans 15, La. **OP**

Smith, Mason, '44, Lt. (M.C.), USNR,
3001 Monument av., Richmond 21, Va. OP
Smith, Maynard P., '44..206 Prof. bldg., Richmond 19, Va. ALR
Smith, Morley T., '36..421 Huguenot, New Rochelle, N. Y. ALR
Smith, Norman N., '43
291 Whitney av., New Haven 11, Conn. ALR
Smith, R. N., '29....Medical Arts bldg., Tulsa 3, Okla. ALR
Smith, R. O., '37.....73 Third av. N. W., Pulaski, Va. ALR
Smith, Robert Arvil, '41, Lt. Col. (M.C.),
635 So. 11th st., New Castle, Ind. ALR
Smith, Rodger Browning, '42
224 W. Washington av., Madison 3, Wis. ALR
Smith, Thomas T., '43, 211 Med. Arts bldg., Omaha 2, Nebr. ALR
①Smith, Victor C., '12
American Bank bldg., New Orleans 12, La. OP
Smith, W. Hamilton, '36
314 Wareham bldg., Hagerstown, Md. ALR
Smith, W. Jewell, '39, 926 E. McDowell Rd., Phoenix, Ariz. ALR
Smith, William L., '30
Medical Arts bldg., Salt Lake City 1, Utah OP
Smith, Windsor R., '33.....67 Front, Binghamton, N. Y. ALR
Smithies, Harold R., '37..2241 Central av., Alameda, Calif. ALR
Smoot, Merrill C., '39,
130 W. Washington st., Hagerstown, Md. ALR
②Sneed, Carl M., '20.....4 No. 8th st., Columbia, Mo. OALR
Snell, Albert C., '25..53 S. Fitzhugh, Rochester 4, N. Y. OP
Snell, George C., '33, Medical Arts bldg., Toronto, Can. ALR
Sneller, Charles D., '44, 320 Jefferson bldg., Peoria, Ill. ALR
Snelling, P. W., '31.....179 Allyn, Hartford 3, Conn. ALR
Snitman, Maurice F., '42
55 E. Washington st., Chicago 2, Ill. ALR
Snow, Harold L., '40.....639 W. 9th, San Pedro, Calif. OP
Snow, William J., '44, 1215 Walker av., Houston, Texas ALR
Snydacker, Daniel, '38,..588 Lawndale St., Holland, Mich. OP
Snyder, Eugene R., '40....7 W. 96th st., New York, N. Y. ALR
Snyder, George Gordon, '40
Mermont Apartments, Bryn Mawr, Pa. ALR
Snyder, Jerome, '38, Capt. (M.C.),
11 E. Chase St., Baltimore, Md. ALR
Snyder, William S., Jr., '36...324 W. Main, Frankfort, Ky. ALR
Soboroff, Simon H., '40
1608 Milwaukee av., Chicago 47, Ill. ALR
Soldineer, Marshall Y., '44, 333 Linwood Ave, Buffalo, N. Y. ALR
Solo, Adrian, '40.....174 Highland av., Somerville, Mass. ALR
Solomon, Henry D., '39
Power & Light bldg., St. Petersburg 5, Fla. ALR
Somberg, J. S., '23...406 Bulkley bldg., Cleveland 15, Ohio OP
Soper, Gail R., '33.....636 Church, Evanston, Ill. OP
Sowers, Alva B., '37
6 N. Michigan av., Sec. 2, Chicago 2, Ill. OP
Spaeth, Edmund B., '28
1930 Chestnut, Philadelphia 3, Pa. OP-PI S
Spain, Marceda L., '44, 629½ Main st., Rapid City, S. D. ALR
②Spake, LaVerne B., '20
Brotherhood bldg., Kansas City 11, Kans. ALR
Spalding, Lansford M., '39
185 Fourteenth st., Astoria, Ore. ALR
Sparber, Herman, '35
4701 Fifteenth av., Brooklyn 19, N. Y. OP
Sparer, William S., '39....50 E. 10th, New York 3, N. Y. ALR
Sparks, Alan Leo, '40
1024 Hume Mansur Bldg., Indianapolis 4, Ind. ALR
Spear, Dean, '44..516 Boston bldg., Salt Lake City 1, Utah OP
Spearman, Maurice P. S., '42,
1315 First Nat'l Bank bldg., El Paso, Texas ALR
Speas, William Paul, '41
Reynolds bldg., Winston-Salem 3, N. C. OP
①Spencer, Frank R., '04..Physicians bldg., Boulder, Colo. ALR
Spencer, George Albert, '28 Rt. 1, Box 42, Placerville, Calif. OALR
Spencer, S. C., '29.....Professional bldg., Waco, Texas OALR
②Spencer, W. H., '18
1830 S. Rittenhouse sq., Philadelphia 3, Pa. ALR
Spencer, Walter Carlton Edward, '40
Medical Arts bldg., Houston 2, Tex. OP
①Spengler, John A., '16.....423 S. Main, Geneva, N. Y. OP
Sperry, F. N., '36..107 Whitney av., New Haven 10, Conn. ALR
Spiegelglass, A. B., '39.....417 Main, Hackensack, N. J. ALR
Spiesman, I. G., '29, 1908 St. Charles road, Maywood, Ill. ALR
①Spitze, E. C., '16.....Murphy bldg. East St. Louis, Ill. OP
Sporn, Hyman, '38, Maj. (M.C.), 0-492145,
Address Unknown ALR
Springer, James Earl, '41
Peoples Bank bldg., Akron 8, Ohio ALR
Sproule, Ralph P., '28
208 E. Wisconsin, Milwaukee 2, Wis. OALR
Sputh, Carl B., '40
224 N. Meridian st., No. 301, Indianapolis 4, Ind. ALR
Stack, James Edward, '41
8838 Woodhaven blvd., Woodhaven 21, N. Y. ALR
①Stanbery, Henry, '10..Doctors bldg., Cincinnati 2, Ohio OP
Stanford, Charles E., '39
Medical Arts bldg., Minneapolis 2, Minn. OP
①Stanford, J. B., '16..899 Madison av., Memphis 3, Tenn. OP
Stanley, C. R., '30....508 Tenth st., Worthington, Minn. ALR
Stark, Jesse B., '25.....46 Park av., New York 16, N. Y. OP
Stark, W. Berkeley, '27 Medical Arts bldg., Toronto 5, Can. ALR
Statti, Louis Wm., '37, Lt. Comdr. (M.C.), USNR,
U. S. Naval Hosp., No. 10, c/o FPO, San Francisco, Calif. OP
Stauffer, F. Leaver, '34
52 East South Temple st., Salt Lake City 1, Utah ALR
Stauffer, Harry B., '43
234 Madison, Jefferson City, Missouri ALR
Steele, Willard, '28.....721 Broad, Chattanooga 2, Tenn. OALR
Steffens, Lincoln F., '44.....1200 Main st., Dubuque Ia. OP
Steffensen, W. H., '37, Blodgett Medical bldg.,
Wealthy St. & Plymouth Rd., Grand Rapids 6, Mich. ALR-PLS
①Steim, J. M., '14
First Nat'l Bank bldg., New Kensington, Pa. OP
Steinbach, Louis, '37
1882 Grand Concourse, New York 57, N. Y. OP
Steinberg, Martin R., '41,
226 W. 70th St., New York 23, N. Y. ALR
Steinbugler, Wm. F. C., '35,
515 Ocean av., Brooklyn 26, N. Y. OP
Steinfeld, A. L., '22....125 Fifteenth st., Toledo 2, Ohio OALR
Stephan, Lewis B., '41.....1326 Second st., Lorain, Ohio OP
Stephens, Henry F., '44, Lt. Comdr. (M.C.),
295 Rumstick Rd., Barrington, R. I. OP
Stern, Milton J., '35
First Nat'l Bank bldg., Lexington 3, Ky. OP
Stern, Wilhelm E., '41
1099 Bushwick av., Brooklyn 21, N. Y. ALR
Stevens, Ralph W., '38,
302-12 Baker bldg., Walla Walla, Wash. OP
①Stevenson, Walter, '15.....W. C. U. bldg., Quincy, Ill. OALR
Stevenson, Walter D. Jr., '43, Major (M.C.),
407 S. 18th st., Quincy, Ill. ALR
Stevenson, William W., '31, Kresge bldg., Flint 3, Mich. OALR
Stewart, Charles E., Jr., '43..Rt. 2, Box 452, Vista, Calif. ALR
Stewart, James K., '37...Wheeling Clinic, Wheeling, W. Va. ALR
Stewart, James V., '42,
First Nat'l Bank Bldg., Massillon, Ohio ALR

①Stewart, T. M., '20, 814 Blair Ave., Cincinnati 29, Ohio **OP**
②Stewart, Walter E., '20, Tribune bldg., Terre Haute, Ind. **OALR**
①Stillson, H., '03.....Seabord bldg., Seattle 1, Wash. **OALR**
②Stimson, George W., '19.580 Perkins drive, Warren, Ohio **OALR**
Stine, George H., '32..Burns bldg., Colorado Springs, Colo. **OP**
Stinson, Wm. D., '28..899 Madison av., Memphis 3, Tenn. **ALR**
Stitt, H. L., '27.....Doctors bldg., Cincinnati 2, Ohio **ALR**
Stockwell, Eunice LeBaron, '42
2018 Pine st., Philadelphia 3, Pa. **OP**
Stoffregen, Charles Henry, '41
10515 Carnegie av., Cleveland 6, Ohio **ALR**
Stokes, Wm. H., '26.Medical Arts bldg., Omaha 2, Nebr. **OP**
Stoll, K. Ludwig, '29.....19 W. 7th, Cincinnati 2, Ohio **OP**
Stone, Harry B., '30,..Medical Arts bldg., Roanoke 11, Va. **ALR**
Stone, Harry B., Jr., '39,
811 Medical Arts bldg., Roanoke 11, Va. **ALR**
Stone, Leslie O., '35, Capt. (M.C.), U. S. Naval Hosp.,
Navy 128, FPO, San Francisco, Calif. **ALR**
Stonecypher, D. D., '30
102½ S. 9th st., Nebraska City, Nebraska **ALR**
Stoner, Cyrus Hubert, '42, Maj. (M.C.),
c/o Base P. O., Chanute Field, Illinois **OP**
Stoner, Donald D., '43...156 W. Pomfret st., Carlisle, Pa. **ALR**
①Stotter, Arthur L., '16,
1148 Euclid av., Cleveland 15, Ohio **OALR**
Stough, John T., '39..Medical Arts bldg., Houston 2, Texas **OP**
Stoutenborough, Wm. A., '27
21 E. State, Columbus 15, Ohio **OALR**
Stovin, Joseph S., '36
151 Central Park West, New York 23, N. Y. **ALR**
Stow, M. Noel, '44..1746 K. st., NW, Washington 6, D. C. **OP**
Straatsma, Clarence R., '32,
66 E. 79th st., New York 21, N. Y. **ALR-PI S**
Strange, Russell H., '44, 117 S. College av.,
Mt. Pleasant, Mich. **ALR**
Straus, Gerhard David, '41, Capt. (M.C.),
Box 119, Chanute Field, Rantoul, Ill. **ALR**
Strause, Harold L., '43
826 N. 5th st., Reading, Pennsylvania **ALR**
Strauss, Arthur, '43
130 Pavilion av., Long Branch, New Jersey **ALR**
Strauss, J. F., '25....104 S. Michigan av., Chicago 3, Ill. **ALR**
Street, Alvin Murray, '41.745 5th av., New York 22, N. Y. **ALR**
Streicher, Carl J., '44....217 Park Place, Ashtabula, Ohio **OP**
Streit, August J., '31.....724 Polk, Amarillo, Texas **ALR**
Strickland, Horace G., '44..Jefferson bldg., Greensboro, N.C. **OP**
Strickler, Alfred D., '43.....26 N. 9th st., Lebanon, Pa. **OP**
Strickler, Joseph G., '37.200 W. 57th, New York 19, N. Y. **ALR**
Strikol, Albert J., '36
621 Delaware av., Wilmington 9, Delaware **ALR**
Strong, James Craig, Jr., '42, Capt. (M.C.),
Crile General Hospital, Parma, Cleveland, Ohio **OP**
Stroud, Sanders Key, '40
Major (M.C.), Borden General Hosp., Chickasha, Okla. **OP**
②Strout, G. Elmer, '19,
1009 Nicollet av., Minneapolis 2, Minn. **OALR**
Struble, Gilbert C., '42, Lt. Col. (M.C.),
Crile General Hospital, Cleveland 9, Ohio **OP**
Stuard, Charles G., '43, 310 Med. Arts bldg., Tulsa 3, Okla. **OP**
①Stueber, F. G., '05.....209 W. North, Lima, Ohio **OALR**
②Stueber, Paul J., '17.....209 W. North, Lima, Ohio **OALR**
②Sturges, Leigh F., '18..121 E. 60th, New York 22, N. Y. **ALR**
Stutsman, Albert C., '37
539 N. Grand blvd., St. Louis 3, Mo. **ALR**
Sudranski, Herbert F., '40, Lt. (M.C.), USNR,
U. S. Naval Hospital, St. Albans, L. I., N. Y. **OP**
Suehs, Oliver W., '41.....120 W. 7th St., Austin, Tex. **ALR**
Sugar, H. Saul, '41..58 E. Washington st., Chicago 2, Ill. **OP**
Sullivan, Charles T., '37..277 Alexander, Rochester 7, N. Y. **OP**
Sullivan, Clifford P., '40, 304 W. 63rd St., Chicago 21, Ill. **OP**
Sullivan, Joseph A., '33, Wing Commander (RCAF),
Medical Arts bldg., Toronto 5, Ontario, Can. **ALR**
Sullivan, Robert E., '32...Doctors bldg., Nashville 3, Tenn. **OP**
Sullivan, Timothy, '42.....104-15th av., Sterling Ill. **ALR**
Sulzman, Frank M., '22....1831 Fifth av., Troy, N. Y. **OALR**
Sulzman, John H., '39, Lt. Comdr. (M.C.), U.S.N.R.,
1831 Fifth av., Troy, N.Y. **OALR**
Summers, Wm. S. '27
David Whitney bldg., Detroit 26, Mich. **OALR**
Sunde, Einar A., '38.....627 Second, Brooklyn 15, N. Y. **ALR**
Sutherland, J. M., '29....Fisher bldg., Detroit 2, Mich. **ALR**
Sutherland, William S., '40
1930 Chestnut st., Philadelphia 3, Pa. **OP**
Swab, Charles M., '28, Medical Arts bldg., Omaha 2, Nebr. **OP**
Swalm, Charles J., '39
1330 W. Rockland, Philadelphia 41, Pa. **ALR**
Swan, John R., '39
915 Hume Mansur bldg., Indianapolis 4, Ind. **ALR**
Swan, Kenneth C., '43, Dep't of Oph., University
of Ore. Med. Sch., Marquam Hill Rd., Portland, 1, Ore. **OP**
Swann, Cecil C., '32....Flat Iron bldg., Ashville, N. C. **ALR**
Swanson, Clifford A., '38, Capt. (M.C.),
The Westchester Apts., 836-B, Washington 16, D. C. **OALR**
①Swetman, C. R. K., '15
219 S. Mt. Vernon, Prescott, Ariz. **ALR**
Swick, David A., '37....30 W. 70th, New York 23, N. Y. **OP**
Swift, Donald E., '39, Major (M.C.)....Jordanville, N. Y. **OP**
Swigert, J. Leonard, '37.....Republic bldg., Denver Colo. **OP**
Swing, Frank U., '35...Doctors bldg., Cincinnati 2, Ohio **ALR**
Sykes, Clarence S., '39..2201 Market, Galveston, Texas **OP**
Sykes, Edwin Meredith, '42
Nix Professional bldg., San Antonio 5, Tex. **ALR**
Syracuse, Victor R., '41
29 Washington Sq., W., New York 11, N. Y. **OALR**

T

Tabor, Gilbert S., '37....11 Park Row, Millerton, N. Y. **ALR**
Tangen, George M., '43,
2640 Glenhurst av., St. Louis Park, Minneapolis 16, Minn. **ALR**
Tanner, James W., '32.131 S. Barstow, Eau Claire, Wis. **ALR**
②Taquino, George J., '20
Canal bldg., New Orleans 12, La. **ALR**
①Tarun, William, '10.2309 Kenoak rd., Baltimore 9, Md. **OP**
Tassman, Isaac S., '29
Medical Arts bldg., Philadelphia 2, Pa. **OP**
Taylor, E. Merle, '31.Medical Arts bldg., Portland 5, Ore. **OP**
Taylor, H. Marshall, '35
111 W. Adams, Jacksonville 2, Fla. **ALR**
Taylor, Joseph W., '34.....706 Franklin, Tampa 2, Fla. **OALR**
②Taylor, M. C., '17, 3000 Knowlson av., Pittsburgh 26, Pa. **OP**
Taylor, Shahane R., '39, Jefferson bldg., Greensboro, N. C. **ALR**
Teall, Raymond E. '28
Professional bldg., Kansas City 6, Mo. **ALR**
Tebbutt, H. K., '30.....240 State, Albany 6, N. Y. **ALR**
Teed, R. Wallace, '36, Comdr. (M.C.)
410 Highland rd., Ann Arbor, Mich. **ALR**
Tegelberg, Julius J., '39, Lt. Comdr. (M.C.)
12 Monterey road, Worcester 6, Mass. **ALR**
Tegge, Charles W., '37
1801 Eye st. N. W., Washington 6, D. C..**ALR**

Ten Eyck, Thomas G., '44,
808 N. E. 39th st., Portland 13, Oregon ALR
Terrell, Vance, '42, Stephenville Hospital, Stephenville, Tex. ALR
Terry, Theodore L., '32
140 Marlborough, Boston 16, Mass. OP
Thacker, Edgar A., '43
602 W. University av., Urbana, Illinois ALR
Thaler, Nathan, '40
570 Eastern Parkway, Brooklyn 25, N. Y. ALR
Theis, Franklyn B., '39....209 S. Broadway, Nyack, N. Y. ALR
Thel, Henry C., '38.....387 Franklin, Aliquippa, Pa. ALR
Theobald, Georgiana Dvorak, '29
715 Lake, Oak Park, Ill. OP
Theobald, John J., '29.....715 Lake, Oak Park, Ill. ALR
Theobald, Walter H., '30
307 N. Michigan av., Chicago 1, Ill. ALR
Theodore, Frederick H., '40, Major (M.C.), 01690594,
Address Unknown OP
①Thigpen, C. A., '12....401 S. Court, Montgomery 5, Ala. OALR
Thoburn, Thomas W., '39
1020 Huron road, Cleveland 15, Ohio ALR
Thomas, Charles I., '43
10515 Carnegie av., Cleveland 6, Ohio OP
Thomas, Edward R., '37.....60 Wyoming, Dayton 9, Ohio OP
①Thomas, Francis W., '16, 327 E. State, Columbus 15, Ohio OALR
Thomas, Harry Vernon, '40
Empire Bank bldg., Clarksburg, W. Va. OP
Thomas, James Alanson, '41
Southern Michigan Bank bldg., Coldwater, Mich. ALR
Thomas, James W., '28.....Sharp bldg., Lincoln 8, Nebr. OALR
Thomas, W. Maxwell, '35,
1511 Medical Arts bldg., Dallas 1, Tex. OP
①Thomason, H. E., '12
Professional bldg., Kansas City 6, Mo. ALR
①Thompson, E. H., '07....19 W. 7th, Cincinnati 2, Ohio OALR
①Thompson, G. H., '09....74 North st., Pittsfield, Mass. OALR
Thompson, Howard E., '28.....1100 Main, Dubuque, Iowa OALR
Thompson, James P., '42, Capt. (M.C.)..Ft. Lewis, Wash. OP
Thompson, Lester Emmit, '42
Woolworth bldg., Salida, Colo. ALR
①Thompson, Peter H., '14
308 Commonwealth av., Boston 15, Mass. OP
Thompson, Wm. R., '43, Wills Hospital,
16th & Spring Garden sts., Philadelphia 30, Pa. ALR
①Thomsen-von Colditz, G., '06
Dun Huntin, Merritt Island, Fla. OALR
Thorburn, O. L., '39.....Box 355, Ames, Iowa ALR
Thornburgh, Robert Grant, '42
Professional bldg., Long Beach 2, Calif. OP
Thorne, Fred Sanborn, '39
270 Commonwealth av., Boston 16, Mass. OP
Thorpe, Harvey E., '31..Jenkins Arcade, Pittsburgh 22, Pa. OP
Thorson, John A., '36.....Roshek bldg., Dubuque, Iowa OP
Thygeson, Phillips, '34, Lt. Col. (M.C.)
42 Arboles rd., Menlo Park, Calif. OP
Tickle, Thomas G., '36 30 E. 40th st., New York 16, N. Y. ALR
Tiedke, Gunther E., '39, 120 N. Michigan av. Saginaw, Mich. OP
②Tilderquist, D. L., '19..Med. Arts bldg., Duluth 2, Minn. OALR
Tillotson, R. S., '30
Medical-Dental bldg., Sacramento 14, Calif. ALR
①Timberman, Andrew, '03
91 Hamilton Park, Columbus 3, Ohio OALR
Tindal, John M., '33.....5517 W. Fulton, Chicago 44, Ill. OALR
①Tingley, Louisa Paine, '13
416 Marlborough, Boston 15, Mass. OP
Tinkess, Donald E., '43, Lt. Col. (M.C.) 0483653,
4th General Hospital, APO 1105, c/o P.M.,
San Francisco, Calif. OP
Tippin, Ernest E., '34
1st Nat'l Bank bldg., Wichita 2, Kan. ALR
①Tivnen, Richard J., '08
30 N. Michigan av., Chicago 2, Ill. OALR
②Tobey, George L., Jr., '17
403 Commonwealth av., Boston 15, Mass. ALR
Todd, Grover C., '22....Jenkins Arcade, Pittsburgh 22, Pa. ALR
Togus, Leopold T., '37.....967 Elm, Manchester, N. H. ALR
Tolan, John F., '38.....1115 Terry, Seattle 5, Wash. ALR
Tolan, Thomas L., '33.....Wells bldg., Milwaukee 2, Wis. ALR
Tolman, Henry, '39.....136 Federal, Salem, Mass. ALR
Tomassene, R. A., '23.....1144 Market, Wheeling, W. Va. OALR
Tomb, E. H., '30.....46 Lexington, Framingham, Mass. ALR
Tomlinson, John Wesley, '42, Lt. Comdr. (M.C.),
Address Unknown OP
Tomlinson, Roland D., '39, 505 E. Broad st.,
Westfield, N. J. ALR
②Tooker, C. W., '17....Carleton bldg., St. Louis 1, Mo. OP
Toot, J. F., '30.....First Nat'l Bank bldg., Canton 2, Ohio OP
Town, Arno E., '36.....140 E. 54th St., New York, N.Y. OP
Townes, C. Dwight, '32..1014 Heyburn bldg., Louisville, Ky. OP
Townsend, John F., '23.85 Wentworth, Charleston 6, S. C. OALR
Towson, Charles E., '32
Germantown Prof. bldg., Philadelphia 44, Pa. ALR
Tracewell, George L., '41, Capt. (M.C.), 0-545018,
Bruns General Hospital, Santa Fe, New Mexico ALR
Tracht, Robert R., '41.....Lowry bldg., St. Paul 2, Minn. OP
Trainor, George M., '42,
277 Alexander st., Rochester 7, N.Y. ALR
Trapasso, Anthony J., '44, Capt. (M.C.), 0-527499,
Regional Hosp., Patterson Field, Fairfield, Ohio ALR
Traugh, George H., '33
309 Cleveland av., Fairmont, W. Va. ALR
Tremble, George E., '32
1390 Sherbrooke st. W., Montreal, Can. ALR
Treskow, Frank G., '41...411 E. Mason, Milwaukee 2, Wis. ALR
Trexler, C. W., '37.....50 Dowsett av., Honolulu, T.H. ALR
②Trible, G. B., '20
1150 Connecticut av. N. W., Washington 6, D. C. OALR
②Tripp, LeRoy R., '20, 909 Badgerow bldg., Sioux City, Ia. OALR
Troncoso, Manuel U., '39
500 West End av., New York 24, N. Y. OP
Trott, Leslie De Nyse, '42
143 North Brand, Glendale 3, Calif. ALR
Trotter, Homer A., '32...40 W. North st., Buffalo 2, N. Y. ALR
Troup, Wilson J., '38, Comdr. (M.C.),
306 Cherry St., Green Bay, Wisc. OALR
Troutman, Erwin W., '40
21 East State st., Columbus 15, Ohio ALR
Trowbridge, Barnard C., '41, Capt. (M.C.),
School of Aviation Medicine, Randolph Field, Texas ALR
Trowbridge, Dwight H., '39
T. W. Patterson bldg., Fresno 1, Calif. OP
Trueman, Robert H., '42,
2139 S. 16th St., Philadelphia 45, Pa. OP
Truex, Edward H., Jr., '44, Maj. (M.C.),
Deshon General Hosp., Butler, Pa. ALR
Trull, Alfred C., '38
3 Washington Square, Haverhill, Mass. OP
Trumbo, James. K., '37....P. O. Box 485, Wausau, Wis. ALR
Tucker, Frank Landale, Jr., '42
464 9th st., Brooklyn 15, N. Y. ALR
Tucker, Gabriel, '23.....250 S. 18th, Philadelphia 3, Pa. LB
①Tuckerman, W. H., '08
1020 Prospect av., Cleveland 15, Ohio OALR

Turchik, Frank, '40..1831 Barnum av., Bridgeport 8, Conn. ALR
①Turnbull, F. M., '16
Wilshire Med. Bldg., Los Angeles 5, Calif. ALR
①Turner, H. H., '14.....Clark bldg., Pittsburgh 22, Pa. OP
①Turner, Oliver W., '09,
155 E. 34th St., New York 16, N. Y. OALR
Turnley, William H., '33...1 Atlantic st., Stamford, Conn. ALR
Tusak, Ervin A., '31....115 E. 90th, New York 28, N. Y. OP
Twitchell, Emmus G., '37.....266 Main, Burlington, Vt. OALR
Tygett, Glenn J., '39
215 N. Sprigg st., Cape Girardeau, Mo. ALR
Tyler, Richard E., '43, The Norwood Clinic,
2501 N. 16th av., Birmingham 4, Ala. ALR
Tyson, John McClure, '40.....3 S. Brady st., DuBois, Pa. ALR

U

Uhler, Ella M., '44.....104 N. 8th st., Allentown, Pa. OP
Uhler, S. Mann, '30.....104 N. 8th, Allentown, Pa. ALR
Ulmer, David H. B., '39..199 Chestnut, Moorestown, N. J. ALR
Underwood, John H., '38.....Brant bldg., Canton 2, Ohio ALR
Unsworth, Arthur C., '38,
179 Allyn st., Suite 508, Hartford, Conn. OP
①Upham, Helen F., '07..305 Third av., Asbury Park, N. J. OALR
Urban, Joseph T., '44, Lt. Comdr. (M.C.), USNR,
Acorn 44, FPO, San Francisco, Calif. ALR
Urist, Martin J., '44
Center & Phoenix sts., South Haven, Mich. OP
Usen, Louis, '36....278 New York av., Brooklyn 16, N. Y. ALR

Veirs, E. R., '40....Scott & White Clinic, Temple, Texas OALR
Veitch, Ambert H., '37....170 St. George, Toronto, Can. ALR
Verhoeff, F. H., '36..61 Monmouth St., Brookline, Mass. OP
Vermeren, John C., '38, Lt. Comdr. (M.C.), USNR,
AddressUnknown ALR
Vermillion, James S., '41.....Welch, W. Va. ALR
Victor, Karl N., '39
1010 Brown bldg., 321 W. Broadway, Louisville 2, Ky. ALR
Viviani, John J....'44, 180 Suydam st., Brooklyn 21, N.Y. ALR
Vogel, Felix P. S., '36
1749 Grand Concourse, New York 53, N. Y. ALR
Voot, George C., '37.....140 Chapin, Binghamton, N. Y. ALR
①Voigt, C. B., '12.....1702 Broadway, Mattoon, Ill. OALR
Volk, Benjamin M., '38, Capt. (M.C.),
c/o George Myers, 100 State st., Albany 7, N.Y. ALR
Von der Heydt, Robert, '26
25 E. Washington, Chicago 2, Ill. OP
von Lackum, John K., '37
Mer. Nat'l Bank bldg., Cedar Rapids, Iowa ALR
von Zelinski, Walter Franz, '41,
3015 Hermosa rd., Santa Barbara, Calif. OP
Voorhees, Earle W., '35
8 Garfield place., Poughkeepsie, N. Y. ALR
Vorisek, Elmer A., '33, Lt. Col. (M.C.),
1041 Lyman Ave., Oak Park, Ill. OP
Vossler, Albert E., '37
David Whitney bldg., Detroit 26, Mich. OALR
Votaw, Robert E., '37..10 Warson Terrace, Clayton 5, Mo. ALR
Vrooman, C. O., '40, Major (M.C.)
159 Park Ave., Mt. Vernon, N. Y. OP

V

Vadala, Anthony J., '38, Col. (M.C.),
Station Hospital, Fort Totten, Bayside, N. Y. OALR
Vail, Derrick, '31,
Rm 2605, 55 E. Washington st., Chicago 2, Ill. OP
Vaile, Ivan R., '36.....384 Bloor st. W., Toronto, Can. ALR
Valone, Frank H., '31.....107 W. Court, Rome, N. Y. ALR
Van Alyea, O. E., '35.....135 S. LaSalle, Chicago 3, Ill. ALR
Van Bergen, Thomas M., '44, Capt. (M.C.),
Dibble General Hosp., S.C.U. 1985, Menlo Park, Calif. OP
Van Buskirk, Edmund Linford, '41
308-312 N. 8th, Lafayette, Ind. OP
③Van der Hoeve, Prof. J., '21
Rijnsburgerweg 6A, Leiden, Holland OALR
Vandevere, William E., '32
1st Nat'l Bank bldg., El Paso, Texas OALR
Vann, Homer King, '41
410 Cedar st. N. W., Washington 12, D. C. ALR
Van Osdol, Harry A., '31
Chamber of Commerce, Indianapolis 4, Ind. ALR
Van Poole, G. McD., '24..Young bldg., Honolulu 9, Hawaii, OALR
Van Wien, Stefan, '43, 104 S. Michigan blvd., Chicago, Ill. OP
Vanzant, T. J., '38, Capt. (M.C.), 0-523087,
2233 N. MacGregor Dr., Houston 4, Texas OP
Vaughan, Benjamin H., '38
Adams bldg., Port Arthur, Texas ALR
③Vaughn, E. H., '19
Peoples Nat'l Bank bldg., Tyler, Texas OALR
Veach, Oscar Lloyd, '40
Whitney Trust bldg., Sheridan, Wyo. OP
①Veasey, C. A., Sr., '06
Paulsen Med. and Dental Bldg., Spokane 8, Wash. OALR
Veasey, C. A., Jr., '27
Paulsen Med. and Dental bldg., Spokane 8, Wash. OALR

W

Wachsberger, Alfred, '31, Lt. Col. (M.C.),
Hammond Gen. Hosp., Modesto, Calif. ALR
Wagener, Henry P., '26.....Mayo Clinic, Rochester, Minn. OP
②Wagers, Arthur J., '20..1429 Spruce, Philadelphia 2, Pa. ALR
Wagner, W. A., '27...200 Carondelet, New Orleans 12, La. ALR
Wails, Theodore G., '38
Medical Arts bldg., Oklahoma City 2, Okla. ALR
Waldapfel, Richard, '40
De Merschman Gardens, Grand Junction, Colo. ALR
Waldeck, E. A., '34
238 W. Wisconsin av., Milwaukee 3, Wis. OALR
Waldman, Joseph, '37,
216 E. Gorgas Lane, Philadelphia 19, Pa. OP
②Walker, C. E., '18.....1732 High, Denver 6, Colo. OP
Walker, George W., '32
T. W. Patterson bldg., Fresno 1, Calif. ALR
Walker, Glenn L., '44, Lt. Col. (M.C.),
U. S. Army General Hospital, Camp Butner,N. C. OP
Walker, John R., '32.T. W. Patterson bldg., Fresno 1, Calif. OP
Walker, Oliver Frank, '42
2873 Lewiston road, Niagara Falls, N.Y. OALR
Walker, O. J., '35.Home S. & L. bldg., Youngstown 3, Ohio ALR
Walker, R. M., '40.....201 N. Main st., Sumter, S. C. ALR
Wall, John William, '42
509 S. Ogden Dr., Los Angeles 36, Calif. ALR
Wallerstein, Emanuel U., '41
Professional bldg., Richmond 19, Va. ALR
Wallner, Linden J., '38, Major (M.C.),
4350 Bobolink Terr., Skokie, Ill. ALR
Walls, Edward G., '35,
1212 Maison Blanche bldg., New Orleans 16, La. ALR
Walsh, Frank B., '44,
Johns Hopkins Hosp., Baltimore 5, Maryland OP

Walsh, Theodore Edwin, '40
640 S. Kingshighway blvd., St. Louis 10, Mo. **ALR**
Walsh, Thomas J., '39...2059 Parrish, Philadelphia 30, Pa. **ALR**
Waltz, Harold D., '42, Major (M.C.)....Address Unknown **ALR**
Ward, J. W., '30.....2607 Lee, Greenville, Texas **ALR**
Warner, Raymond C., '38
324 E. Wisconsin av., Milwaukee 2, Wis. **OP**
Warner, Robert J., '29.....706 Church, Nashville, Tenn. **OP**
Warren, William C., Jr., '28..Doctors bldg., Atlanta 3, Ga. **ALR**
Washick, Frank, '42.501 Cottman st., Philadelphia 11, Pa. **ALR**
Watke, Frederic Martin, '41
Medical Arts bldg., Omaha 2, Nebr. **ALR**
Watkins, H. R., '30....Griesheim bldg., Bloomington, Ill. **ALR**
Watkins, J. O., '41, Major (M.C.),
Woodrow Wilson Gen. Hosp., Staunton Va. **OP**
Watnick, Joseph Louis, '41
10 W. 96th, New York 25, N. Y. **ALR**
①**Watson, H. de Witt, '15**..151 Front, Binghamton, N.Y. **OALR**
Watson, O. Alton, '37
1200 N. Walker, Oklahoma City 3, Okla. **ALR**
Wattles, F. Merrill, '39, Lt. Comdr. (M.C.), USNR,
501 N. 3rd st., Palatka, Fla. **ALR**
②**Waugh, J. M., '19**
Ridge Road, R.F.D. No. 1, Willoughby, Ohio **OALR**
Weaver, Delmar Franklin, '41
Henry Ford Hospital, Detroit 2, Mich. **ALR**
Weaver, E. M. F., '43, Major (M.C.), AAF Regional Conv., Hosp.
Santa Ana AAB, Santa Ana, Calif. **OP**
Weaver, Homer V., '32
625 Cleveland av. N. W., Canton 3, Ohio **ALR**
①**Weaver, T. W., '14**.....201 N. Main, Wichita 2, Kan. **OP**
Webb, M. A., '43.....4500 Olive st., St. Louis 8, Mo. **ALR**
Weber, H. C., '28, Capt. M.C.), USN,
Sta. Personnel Disp., U. S. Naval Center, Farragut, Idaho **OALR**
Weber, Julius A., '39.....Stimson bldg., Seattle 1, Wash. **ALR**
Webster, David H., '37...140 E. 54th, New York 22, N. Y. **OP**
Webster, F. R., '30...State Tower bldg., Syracuse 2, N. Y. **OP**
Wechsler, A. H., '34
340 New York av., Brooklyn 13, N. Y. **ALR**
①**Weeks, John E., '04**, (Retired),
360 Edgecliff rd., Portland 1, Ore. **OP**
Weeth, C. R., '30.....37 Remsen, Brooklyn 2, N. Y. **ALR**
Wegner, Edwin A., Jr., '38, Capt. (M.C.), 0-500978,
120th Gen. Hosp., APO 322, c/o PM, San Francisco, Calif. **ALR**
Weidlein, Ivan F., '30
10515 Carnegie av., Cleveland 6, Ohio **ALR**
②**Weih, E. P., '20**.....217 Fifth av., S., Clinton, Iowa **OALR**
①**Weil, A. I., '16**....3439 Prytania, New Orleans 15, La. **ALR**
Weinberg, Herman Charles, '42,
10515 Carnegie av., Cleveland 6, Ohio **OP**
Weinman, Edward B., '39, Capt. (M.C.),
Regional Hospital, Camp Shelby, Miss. **OP**
Weinstein, M. A., '27....1530 Locust, Philadelphia 2, Pa. **ALR**
Weinstein, Philip, '39..400 Ingraham bldg., Miama 32, Fla. **ALR**
Weinstein, Samuel, '37, 441 Ocean av., Brooklyn 26, N. Y. **ALR**
Weiss, Harry, '40, ..37-21 Parsons Blvd., Flushing, N. Y. **OP**
Weiss, J. Allan, '32, Comdr. (M.C.)
U. S. Naval Hospital, St. Albans, N. Y. **ALR**
Weiss, Sidney, '44, Capt. (M.C.).....Address Unknown **OP**
Weisser, Charles William, 42, Capt. (M.C.),
Letterman General Hosp., San Francisco, Calif. **OP**
②**Weisser, E. A., '17**.....May bldg., Pittsburgh 22, Pa. **OP**
Weizenblatt, Sprinza, '38
New Medical bldg., Asheville, N. C. **OP**
Welch, Robert S. G., '22, 80 State Circle, Annapolis, Md. OALR
Welden, Wm. A., '33.....Glasgow, Ky. **OP**
Wellford, B. R., '43
510 Medical Arts bldg., Richmond 19, Va. **ALR**
①**Wells, David W., '08**, 31 Bay State rd., Boston 15, Mass. **OP**
Welt, Bernard, '43, 135 New York av., Brooklyn 16, N. Y. **ALR**
Wenaas, Elmer J., '38....24 Wick av., Youngstown, Ohio **OP**
Wencke, Carl G., '25
1015 Security Tower, Battle Creek, Mich. **ALR**
Wendel, J. S., '23.David Whitney bldg., Detroit 26, Mich. **ALR**
Wenner, W. T., '30....St. Mary's bldg., St. Cloud, Minn. **OP**
Wescott, Virgil, '35....30 N. Michigan av., Chicago 2, Ill. **OP**
Wesson, Thomas W., '43, 124 S. E. 1st., Evansville 8, Ind. ALR
Westervelt, H. O., '32
239 Pipestone, Benton Harbor, Mich. **ALR**
②**Westlake, Samuel B., '18**
Beaumont Med. bldg., St. Louis 8, Mo. **ALR**
Wetzel, John O., '30..Olds Tower bldg., Lansing 8, Mich. **OP**
Wetzel, Roy J., '44.....301 Broadway, Hanover, Pa. **ALR**
Wexler, David, '30.....103 E. 86th, New York 28, N. Y. **OP**
Weymuller, Ernest A., '36, Maj. (M.C.), Office of Air Surgeon,
Hq. 1st Air Force, Army Air Base, Mitchell Field, L.I. N.Y. **ALR**
Whalen, Edward J., '28.....750 Main, Hartford 3, Conn. **ALR**
Whalman, Harold Frederic, '40
R. 1147, 727 W. 7th st., Los Angeles 14, Calif. **OP**
Wheeler, Maynard C., '35, 30 W. 59th, New York 19, N. Y. **OP**
Wheeler, Merritt W., '23..Lowry bldg., St. Paul 2, Minn. **OALR**
Whelan, G. L., '25.....2100 Walnut, Philadelphia 3, Pa. **ALR**
Whelan, William F., '34..2004 Walnut, Philadelphia 3, Pa. **ALR**
①**Whisnant, A. M., '13**,
R.F.D. No. 2, Park Rd., Charlotte 3, N. C. **OALR**
②**Whitaker, Joel, '17**
807 Hume-Mansur bldg., Indianapolis 4, Ind. **OALR**
White, Carl Harper, '42.....106 Riner st., Fenton, Mich. **OALR**
White, Clarence Hunt, '42.....Box 257, Henderson, N. C. **ALR**
White, Francis W., '37..471 Park av., New York 22, N. Y. **ALR**
White, Herbert T., '37.....National bldg., Flint 3, Mich. **OP**
White, James W., '34....15 Park av., New York 16, N. Y. **OP**
White, J. Warren, '37, Medical Arts bldg., Norfolk 10, Va. **OALR**
White, Vivian P., '31
Tribune Telegram bldg., Salt Lake City 1, Utah **ALR**
Whitney, E. L., '30..Henry Ford Hosp., Detroit 2, Mich. **OP**
Whitney, P. T., '36.....390 Main, Worcester 8, Mass. **OP**
Whitsell, Fay M., '37.....826 E. 61st St., Chicago, Ill. **OP**
Whitworth, John Ewing, '41....116 Hammond, Bangor, Me. **ALR**
Wible, LeRoy E., '35, Comdr. (M.C.),
U. S. Naval Hosp., Bainbridge, Md. **ALR**
①**Wiener, Alfred, '08**..550 Park av., New York 21, N. Y. **OALR**
①**Wiener, Meyer, '12**
Box 685, 321 Alameda blvd., Coronado, Calif. **OP**
Wieselthier, Maurice L., '42
1322 Union st., Brooklyn 13, N. Y. **OP**
Wiest, Philip R., '43, Capt. (M.C.),
1036 Franklin st., Reading, Pa. **ALR**
Wilber, Inez Edith, '40
1746 K st. N. W., Washington 6, D. C. **OP**
①**Wilbur, Edward P., '03**
American Nat'l Bank bldg., Kalamazoo 4, Mich. **OALR**
Wilcox, Malcolm B., '43, Lt. Comdr. (M.C.),
U. S. Naval Hospital, Oakland, Cal. **ALR**
Wiley, Jason L., '39.....Metcalf bldg., Auburn, N. Y. **OP**
Wilkerson, Wm. W., Jr., '32
Bennie-Dillon bldg., Nashville 3, Tenn. **ALR**
Wilkins, Ellis LeRoy, '42
McWilliams bldg., Clarksdale, Miss. **ALR**
Wilkins, Samuel H., '34
270 Commonwealth av., Boston 16, Mass. **OP**

Wilkinson, A. P., '30
3001 W. Grand blvd., Detroit 2, Mich. OALR
Wilkinson, Joel A., '37
1130 Louisiana av., Shreveport 7, La. OALR
Wilkinson, Oscar, '30
1408 L st. N. W., Washington 5, D. C. OALR
Wilkinson, Richard W., '34
1408 L st. N. W., Washington 5, D. C. ALR
Wilkinson, Wallace B., '39..521 E. 10th, Dallas 8, Texas ALR
Williams, Henry L., '37....Mayo Clinic, Rochester, Minn. ALR
②**Williams, Horace J.**, '20
5908 Greene, Germantown, Philadelphia 44, Pa. ALR
Williams, John W., '43,
642-660 Medical Arts Bldg., Springfield, Mo. ALR
Williams, M. M., '27..Medical Arts bldg., Scranton 3, Pa. OP
Williams, Mortimer H., '39,
711 Medical Arts bldg., Roanoke, Va. ALR
Williams, Robert J., '41..118 E. First st., Monroe, Mich. ALR
Williams, Russell I., '43, 422 Hynds bldg., Cheyenne Wyo. ALR
②**Williams, Walton H.**, '21, Castell bldg., Middletown, Ohio OALR
Willison, Eugene E., '39
Merced Clinic bldg., Merced, Calif. OP
Willson, Wesley W., '28
6777 Hollywood Blvd., Hollywood 28, Calif. OALR
Wilmes, M. N., '43,
960 Paulsen Medical & Dental bldg., Spokane, Wash. ALR
Wilner, Arthur S., '44..225 West State st., Trenton, N. J. ALR
Wilson, Alfred, '39, Lt. Col. (M.C.),
2910 W st., S. E., Washington 20, D. C. OP
Wilson, Alpheus K., '38
334 St. James bldg., Jacksonville 2, Fla. ALR
Wilson, Clinton A., '40, Lt. Col. (M.C.),
609 S. Grand av., Rm. 814, Los Angeles 14, Calif. OP
Wilson, Frank E., '33.....302 State, New London, Conn. ALR
Wilson, George E., '38....108 Main, Saranac Lake, N. Y. ALR
Wilson, Harold A., '41, 71 Maiden Lane, Kingston, N. Y. ALR
Wilson, Hudson J., '36
1st National Bank bldg., Ithaca, N. Y. ALR
Wilson, Otis M., '42.....502 3rd st., Wausau, Wis. OP
Wilson, Paul E., '39.....408 Franklin, Clarksville, Tenn. OP
Wilson, Robert G., '31....304 East Main, Batavia, N. Y. ALR
Wilson, Wm. Hildebrand, '42,
903 Republic bldg., Denver 2, Colo. ALR
Wimmer, Shirley D., '41
153 So. Lasky Drive, Beverly Hills, Cal. ALR
Wincor, Henry G., '31
1882 Grand Concourse, New York 57, N. Y. OP
Windham, R. E., '28
234 W. Beauregard blvd., San Angelo, Texas OALR
Winer, Albert S., '43
1835 Eye St., N. W., Washington 6, D. C. ALR
Winger, Ira B., '27.....709 Madison av., Toledo 2, Ohio OALR
Winkler, Herman, '34....224 Thayer, Providence 6, R. I. ALR
Winn, Thomas M., '39, 129½ Maple av., Covington, Va. OALR
Winn, William R., '38.....Rt. 5, Box 161, Tucson, Ariz. ALR
Winston, Julius, '36..1737 Chestnut st., Philadelphia 3, Pa. ALR
Winter, George E., '22
117 Michigan av. W., Jackson, Mich. OALR
Winter, John A., '23.....205 W. 2nd, Duluth 2, Minn. OALR
①**Wise, Ralph C.**, '14.....News bldg., Mansfield, Ohio OALR
Wiser, Henry J., '41, Capt. (M.C.)
503 Dream's Landing, Annapolis, Md. ALR
Wishart, David Edmund Staunton, '42
Medical Arts bldg., Toronto 5, Can. ALR
Wojniak, Frank, '43, 4649 S. Ashland av., Chicago 9, Ill. ALR
Wolcott, Charles C., '31.....27 Ludlow, Yonkers, N. Y. ALR
Wold, K. C., '24
Lowry Med. Arts bldg., St. Paul 2, Minn. OALR
Wolf, Lewis R., '43
3474 Frankford av., Philadelphia 34, Penn. OP
Wolfe, Hugh C., '37....102 N. Elm, Greensboro, N. C. ALR
②**Wolfe, Otis R.**, '19
Masonic Temple, Marshalltown, Iowa OP
Wolfe, William C., '41, Major (M.C.)....Address Unknown ALR
Wolpaw, Benjamin J., '36,
2323 Prospect av., Cleveland, Ohio OP
Womack, David R., '33,
1218 Maison Blanche bldg., New Orleans 16, La. ALR
Wood, Earl LeRoy, '28,
225 Ballantine Pkwy., Newark 4, N. J. ALR
Wood, Edward Christopher, '35, Lt. Col. (M.C.),
175 Main St., White Plains, N. Y. OP
Wood, Everet H., '40, Capt. (M.C.), 148th General Hosp.,
APO 244, c/o PM, San Francisco, Calif. OP
Wood, Maynard A., '44, Lt. Comdr. (M.C.), USNR,
Fleet Hosp. 114, Fleet Post Office, San Francisco, Calif. OP
Wood, Spencer, '37.....500 Verret, New Orleans 15, La. ALR
Wood, V. Visscher, '28,
6368 Washington, University City 5, Mo. ALR
Woodman, Degraaf, '33, 156 E. 37th, New York 16, N. Y. ALR
Woodrow, Jack H., '41, Major (M.C.)...Address Unknown ALR
①**Woodrow, Frederick E.**, '13
Metropolitan bldg., St. Louis 3, Mo. OP
Woodruff, George H., '32....250 N. Ottawa, Joliet, Ill. ALR
①**Woodruff, H. W.**, '11.....250 N. Ottawa, Joliet, Ill. OALR
Woodry, Norman Lee, '36
1501 David Whitney bldg., Detroit 26, Mich. ALR
Woods, Alan C., '39
Johns Hopkins Hospital, Baltimore 5, Md. OP
①**Woods, R. H.**, '15.....153 Marquette, La Salle, Ill. OP
Woodson, B. Palmer, '28
Scott and White Hospital, Temple, Texas OALR
Woodson, Warren B., '33
601-22 Professional bldg., Temple, Tex. OALR
Woodward, F. D., '29
104 E. Market, Charlottesville, Va. ALR
Woodward, John F., Jr., '36
Goodhue bldg., Beaumont, Texas ALR
Woodward, Paul Maxwell, '41
4140 Hamilton av., Cincinnati 23, Ohio ALR
Woodworth, Wm. P., '27
2501 W. Grand blvd., Detroit 8, Mich. OALR
Woolfolk, William L., '43, 115 E. 4th st., Owensboro, Ky. ALR
Woolsey, William Jinkens, '42
212 N. 7th., Waco, Texas OP
Worcester, George F., '41....220 Engle, Englewood, N. J. ALR
Work, Walter P., '43, Capt (M.C.),
Borden Gen. Hosp., Chickasha, Okla. ALR
Wotring, John M., '39.....220 N. 6th, Reading, Pa. OP
Wright, Edward S., '38,
410 Medical Arts bldg., Atlanta, Ga. ALR
①**Wright, J. Wm.**, '14
301 Hume-Mansur bldg., Indianapolis 4, Ind. ALR
Wright, R. Percy, '32,
1414 Drummond st., Montreal, Can. ALR
Wright, Walter W., '26
Medical Arts bldg., Toronto 5, Can. OP

①Wurtz, W. J. M., '13..333 Linwood av., Buffalo 9, N. Y. **ALR**
①Wylie, C. B., '10.....293 High, Morgantown, W. Va. **OALR**
Wynn, Sidney K., '44, Capt. M.C.),
O'Reilly General Hospital, Springfield, Mo. **ALR**

Y

Yasuna, Elton R., '44.....44 Pearl St., Worcester, Mass. **OP**
Yavelow, Charles S., '41,
117 South Second av., Mt. Vernon, N. Y. **ALR**
②**Yazel, Herman E.**, '20..Rialto bldg., Kansas City 6, Mo. **OALR**
Yinger, Starling C., '41
First Nat'l Bank bldg., Springfield, Ohio **ALR**
Yost, Walter M., '28.....Lake av., Greenwich, Conn. **OP**
Young, Charles A., '26,
409 Medical Arts bldg., Roanoke, Va. **OP**
Young, Clarence M., '35, P.O. Box 1506, Medford, Ore. **ALR**
Youngerman, William M., '38, **Major (M.C.)**,
Address Unknown ALR
Youngs, N. A., '36
Grand Forks Clinic, Grand Forks, N. D. **ALR**
Yudkin, Arthur M., '37, 257 Church, New Haven 10, Conn. **OP**

Z

Zacks, Myron A., '39..1737 Chestnut, Philadelphia 3, Pa. **ALR**
Zbar, Joseph E., '42,..2690 Boulevard, Jersey City 6, N. J. **ALR**
②**Zehnder, A. Charles**, '19
188 Roseville av., Newark 7, N. J. **OP**
Zekman, Theodore N., '38, **Capt. (M.C.)**,
1627 Hyde Park blvd., Chicago 15, Ill. **OP**
Zeman, Michael S., '43,
202-3 Professional bldg., 179 Allyn st., Hartford 3, Conn. **ALR**
②**Zemar, S. G.**, '17.....Stuart bldg., Lincoln 8, Nebr. **OALR**
②**Zentmayer, Wm.**, '21..1930 Chestnut, Philadelphia 3, Pa. **OP**
Zimmerman, J. Landis, '37....207 State, Harrisburg, Pa. **OP**
②**Zinkhan, A. M.**, '20
1801 Eye st. N. W., Washington 6, D. C. **ALR**
Zinn, Waitman Farnsworth, '40
Medical Arts bldg., Baltimore 1, Md. **ALR**
Zubak, Matthew F., '28
704-9 Central Union bldg., Wheeling, W. Va. **OALR**
Zuckerman, Joshua, '36..875 Park av., New York 21, N. Y. **OP**
Zwerling, Samuel, '36
789 St. Mark's av., Brooklyn 13, N. Y. **ALR**

Geographical

ALABAMA

ANNISTON

Neidlinger, Wm. J., Capt. (MC)
Regional Hospital, Ft. McClellan **ALR**

BIRMINGHAM

Clements, Frank Hartman.....806 Medical Arts bldg. **OP**
Fisher, Gilbert Eugene.....Medical Arts bldg., Z5 **ALR**
Hardy, Walter B.....2121 Highland av., Z5 **ALR**
Kincannon, LeRoy T.....2300 Highland Ave., Z5 **OALR**
Pope, Ernest C.....2021 Sixth av. N., Z3 **ALR**
Rucker, E. W., Jr.....Woodward bldg., Z3 **ALR**
Tyler, Richard E.
The Norwood Clinic, 2501 N. 16th av., Z4 **ALR**

DOTHAN

Keyton, John A.....304 N. Oates **ALR**

GADSDEN

Frank, Herman W.....Medical bldg. **OP**
Isbell, Euclid A.....948 Forrest av. **ALR**

MOBILE

Martin, Henry F.....904 Government St. Z20 **ALR**
Perdue, James D.....P. O. Box 514, Z4 **OP**
Sanders, J. Gillis...714 Merchants Nat'l Bank bldg., Z11 **ALR**

MONTGOMERY

Benkwith, Karl B.....400 Norman Bridge Rd. **OP**
Hagood, Daniel S.....822 First Nat'l Bank bldg., Z4 **OP**
Holding, Bruce F.....Bell bldg., Z4 **ALR**
Nodine, Edward R.....1110 Bell bldg., Z4 **ALR**
Thigpen, C. A.....401 S. Court, Z5 **OALR**

TUSCALOOSA

Callahan, Alston, Capt. (M.C.)..Northington Gen. Hosp. **OP**
Cohen, Jerome H., Capt. (MC)
Northington General Hospital **OP**
Searcy, H. B.....2501 Sixth **OALR**

ARIZONA

PHOENIX

Brinkerhoff, David E.....Grunaw Clinic **ALR**
Case, Paul H.....15 E. Monroe **OP**
Cruthirds, Archie Edward.....Professional bldg. **ALR**
Melton, B. L., Jr.....15 E. Monroe, **OP**
Robb, Mayo.....Professional bldg. **ALR**
Schwartz, William A.....320 Professional bldg. **OALR**
Smith, W. Jewell.....926 E. McDowell Rd. **ALR**

PRESCOTT

Swetman, C. R. K.....219 S. Mt. Vernon **ALR**

TUCSON

Brown, Earl Henderson.....130 S. Scott **ALR**
George, Arthur R., Capt. (M.C.),
Sec. M, Davis Monthan Field **ALR**
Winn, William R.....Rt. No. 5, Box 161 **ALR**

ARKANSAS

EL DORADO

Russell, Martin V.....200 W. Elm st. **ALR**

FORT SMITH

Moulton, Everett C.....Merchants National Bank bldg. **OALR**
Moulton, Herbert.....Merchants National Bank bldg. **OALR**

HOT SPRINGS

Goldthwaite, Ralph H., Brig. Gen. (M.C.),
Army and Navy General Hospital **OALR**
Huston, Marshall D., Capt. (MC)
Army and Navy General Hospital **ALR**
King, O. H.....Medical Arts bldg. **OALR**

LITTLE ROCK

Calcote, Royal J.....541 Donaghey Bldg. **OP**
Caldwell, Robert .....New Donaghey bldg. **OALR**
Cook, Raymond C.....1005 Donaghey Bldg. **OP**
Cosgrove, Kingsley White.....115 East Capitol **OALR**
Mahoney, Paul Leo.....Donaghey bldg. **ALR**

PINE BLUFF

Payne, Virgil LeRoy.....Simmons National bldg. **ALR**

CALIFORNIA

ALAMEDA

Smithies, Harold R.....2241 Central av. **ALR**

ALHAMBRA

Johnson, Ernest D.....317 W. Main **OALR**

BANNING

Harner, Clyde E.....491 W. Gilman St. **OALR**

BEVERLY HILLS

Cooperman, Harold O., Suite 210,
Beverly Prof. bldg., 9615 Brighton Way **OP**
Dow, Julian Neal.....9730 Wilshire blvd. **OP**
Hartzell, Sol M.....137 So. Peck Drive **OALR**
Irvine, A. Ray.....9730 Wilshire Blvd. **OP**
Irvine, S. Rodman.....9730 Wilshire Blvd. **OP**
Lemere, H. B.....9615 Brighton Way **OALR**
Romonek, Philip L.....415 N. Camden dr. **OALR**
Shumaker, Phil W.....9730 Wilshire blvd. **ALR**
Wimmer, Shirley D.....153 S. Lasky dr. **ALR**

CAMP BEALE

Schultz, Abraham, Major (MC)...ASF Pers. Repl. Depot **OP**

CAMP STONEMAN

Culpepper, William S.....Col. (M.C.), Station Hospital **ALR**

CORONADO

Wiener, Meyer.....Box 685, 321 Alameda blvd. **OP**

EL CENTRO

Edwards, S. R.....107 S. Fifth **OALR**

CALIFORNIA — Continued

FRESNO

Awtry, Hugh H.....2014 Tulare St. ALR
Forrester, Alex M., Capt. (MC).....Hammer Field ALR
Olson, George W.....1759 Fulton, Z1 ALR
Trowbridge, Dwight H.....T. W. Patterson bldg., Z1 OP
Walker, George W.....T. W. Patterson bldg., Z1 ALR
Walker, John R.....T. W. Patterson bldg., Z1 OP

GLENDALE

Donohoe, Edward C.....1447 Royal Blvd. ALR
Trott, Leslie De Nyse.....143 North Brand, Z3 ALR

HAMILTON FIELD

Kirkpatrick, Hazen L., Capt. (MC)....Station Hospital ALR

HOLLYWOOD

Cobb, Edwin.....1680 N. Vine St. OALR
James, Voyle.....6253 Hollywood blvd. ALR
King, Edward.....6777 Hollywood Blvd. Z28 ALR
Mulligan, Harold R.....1680 North Vine St. Z28 ALR
Naftzger, J. B.....6777 Hollywood blvd., Z28 OALR
Willson, Wesley W.....6777 Hollywood Blvd. Z28 OALR

HUNTINGTON PARK

Appelbaum, Alfred.....5905 Pacific Blvd. OP

INGLEWOOD

Kinkade, Joseph M.....359 E. Manchester blvd. ALR

LA JOLLA

Roberts, William H.....335 Westbourne St. OALR

LA MESA

Sherman, A. Edward
Lt. Col. (M.C.) (Retired), Rt. 1, Box 1401 OALR

LOMA LINDA

Schroeder, Milo Carl, Capt. (M.C.),
Loma Linda Sanitarium ALR

LONG BEACH

Brandenburg, Kenneth C.....110 Pine av., Z2 OALR
Godwin, Dean E.....117 E. 8th St., Z2 ALR
Ogden, J. C.....Professional bldg., Z2 OP
Smith, Dennis V.....110 Pine st. OP
Thornburgh, Robert G.....Professional bldg., Z2 OP

LOS ANGELES

Abraham, Samuel V.....1930 Wilshire blvd., Z5 OP
Albaugh, Clarence H.....727 W. 7th (suite 1131), Z14 OP
Beauchamp, Mark L.....1136 W Sixth St. Z14 ALR
Boyce, William A.....Roosevelt bldg., Z14 OP
Brown, J. M.....1136 W. 6th, Z14 ALR
Brownsberger, Sidney B.....727 W. 7th St. Z14 OP
Burston, Herschel.....1917 Wilshire blvd., Z5 ALR
Christensen, Eugene L.....727 W. 7th st., Z14 OP
Colver, Benton Noble.....436 S. Boyle av., Z33 ALR
Crane, Walter Raymond...Room 1027, 717 W. 7th, Z14 ALR
Dayton, G. O.....1401 S. Hope, Z15 OALR
Dexter, Milton A.....827 Glenmont Ave. Z24 ALR
Donoher, William D.....635 S. Westlake av., Z5 OALR
Ellis, Orwyn H., Lt. (M.C.).....647 Warner av., Z24 OP
Faier, H. I.....1930 Wilshire blvd., Suite 203 Z5 OP
Fairchild, Nora M.....939 S. Figueroa, Z15 OP
Fraser, Robert C.....6777 Hollywood blvd. Z28 ALR
Goldberg, Sylvan S.....1917 Wilshire blvd., Z5 ALR
Goodhill, Victor.....676 S. Westlake, Z5 ALR
Gorrilla, Laurence Vincent.....511 So. Bonnie Brae st. OP
Gosney, C. W.....5217 Hollywood blvd., Z27 OP
Greenwood, Glenn J.....154 Medio Dr. Z24 ALR
Guggenheim, Louis K.....321 Glenroy av., Z24 ALR
Gundrum, Lawrence Kramer.....1930 Wilshire blvd., Z5 ALR
Hall, Colby, Capt. (M.C.)....545 S. Hobart blvd., Z5 ALR
Hartman, Deane C.....727 W. Seventh st., Z14 OP
Hillyer, Ernest C.....1033 Gayley Ave. Z24 OP
Holden, Harold M.....3875 Wilshire Blvd. Z5 ALR
House, Howard P.....1136 W. 6th st., Z14 ALR
House, Leland R.....1727 New Jersey st., Z33 ALR
Jesberg, Simon.....500 S. Lucas av., Z13 ALR
Kully, B. M.....3875 Wilshire blvd., Z5 ALR
Landegger, George P. 860 Roosevelt Bldg.,
727 W. 7th St. Z14 OP
Lefler, Anna B.....2419 W. 18th St. Z6 OALR
Lordan, John P.....1930 Wilshire blvd., Z5 OP
McLaughlin, R. C.....3780 Wilshire blvd., Z5 ALR
Marks, Julian B.....1093 Broxton av., Z24 ALR
Mogan, Richard F.....523 West 6th st., Z14 ALR
Monaco, Louis.....1100 Roosevelt Bldg. Z14 ALR
Mumma, C. S., Maj. (M.C.),
U. S. Veterans' Facility, Z25 ALR
Nugent, Maurice W.....1930 Wilshire blvd., Z5 OP
Olkon, Dora B.,.....1919 Wilshire Blvd. Z5 OP
Owens, Harold.....1052 W. 6th st., Z14 ALR
Packard, Louis A.....523 W. 6th st., Z14 OALR
Peluse, Samuel.....1930 Wilshire blvd., Z5 ALR
Pressman, Joel J.....615 N. Faring Road, Z24 ALR
Rogers, John B.....1401 S. Hope, Z15 OP
Ross, Cecelia.....1930 Wilshire blvd. Z5 OP
Rubin, Henry J. Capt (M.C.) 611 N. Stanley Ave. Z36 ALR
Scobee, J. Edwin.....6253 Hollywood blvd. Z28 ALR
Turnbull, F. M.....Wilshire Medical bldg., Z5 ALR
Wall, John William.....509 S. Ogden Dr. Z36 ALR
Whalman, Harold Frederic ....1147-727 W. 7th, Z14 OP
Wilson, Clinton A., Lt. Col. (MC)
609 S. Grand Ave. Rm. 814 Z14 OP

MARCH FIELD

Harris, E. W.....Maj. (M.C.), Station Hospital ALR

MARYSVILLE

Simons, Harold.....725 Fourth St. OP

MENLO PARK

Cunningham, Bernard P., Major (M.C.),
Dibble General Hospital ALR
Cutler, Norman L., Lt. Col. (M.C.), Dibble Gen. Hosp. OP
Thygeson, Phillips, Lt. Col. (M.C.).....42 Arboles rd. OP
Van Bergen, Thomas M., Capt. (MC)
Dibble General Hospital, S.C.U.1985 OP

MERCED

Willison, Eugene E.....Merced Clinic bldg. OP

MODESTO

Wachsberger, Alfred, Lt. Col. (M.C.),
Hammond Gen. Hosp. ALR

MONTEREY

Clark, Howard E.....576 Hartnell st. OALR

OAKLAND

Albright, Paul M., Capt. (MC) USN U. S. Naval Hospital OALR
Deitchman, Louis, Major (MC)
ASF Regional Station Hospital ALR
Gump, Millard E.....411 30th St. Z9 OP
Howell, Homer P.....3022 E. 14th St. Z1 OP

CALIFORNIA — Continued

Keeler, Nelson S.....411 Thirtieth, Z9 ALR
O'Connor, Roderic P.....411 30th st. OP
Richman, Frances, Lt. Comdr. (MC) .U. S. Naval Hospital OP
Wilcox, Malcolm B., Lt. Comdr. (MC)
U. S. Naval Hospital ALR
McClure, George.....411 Thirtieth, Z9 ALR
Nutting, Raymond J.....411 Thirtieth, Z9 OP

ONTARIO

Hooval, J. H.....213 Fallis bldg. ALR

PACIFIC PALISADES

Shellman, John L.....Box 2 OP

PALM SPRINGS

Chapman, Vernon A.....436 N. Palm Canyon drive OALR

PALO ALTO

Sewall, E. C.....Stanford Univ., 430 El Escarpado ALR

PASADENA

Allen, J. H.....2081 Garfias Drive, Z7 ALR
Cady, D. W.....65 N. Madison av., Z1 OP
Currier, Wilber D.....65 N. Madison av., Z1 ALR
Decker, Russell M.....65 N. Madison av., Z1 ALR
Dewey, C. H., Lt. Col. (MC).....760 S. Oak Knoll ave. OALR
Dysart, Ben Robnett.....65 N. Madison av., Z1 ALR
Henninger, L. L.....65 N. Madison av., Z1 OALR
Henry, L. L.....595 E. Colorado st., Z1 OP
Hunnicutt, Leland G.....275 S. Holliston ave. Z5 ALR
Johnson, Fordyce A. H., Maj. (M.C.),
Pasadena Regional Hospital, Z2 ALR
Johnson, Henrietta May.....595 E. Colorado, Z1 OP
Miller, Theodore E.....First Trust bldg., Z1 ALR
Reed, James Ross.....201 N. El Molino av., Z4 OP
Risser, E. D.....423 First Trust bldg., Z1 OALR
Scanlon, Wilko Gruver.....201 N. El Molino av., Z4 ALR

PLACERVILLE

Spencer, George Albert.....Rt. No. 1, Box 42 OALR

POMONA

Roberts, Gilbert Jay
Lt. Comdr. (M.C.), 586 N. Main st. ALR
Smith, Harold D., Major (M.C.)....197 Garfield Ave. ALR

SACRAMENTO

Holstein, Theodore.....1800 Sutterville road OP
Tillotson, R. S.....Medico-Dental bldg., Z14 ALR

SALINAS

Glasgow, S. Condit.....8 E. Alisal st. ALR

SAN DIEGO

Barbour, Fleming A., Lt. Comdr. (M.C.)
U. S. Naval Hospital OP
Bond, Floyd M.....625 Broadway, Z1 OP
Borley, William E., Capt. (MC) USNR
U. S. Naval Hospital Z34 OP
Brown, Charles Wm.....Bank of America bldg., Z1 ALR
Brownell, Durwin H.....3520 Third av., Z3 ALR
Dennis, F. L.....2745 Barnson place, Z3 ALR
Durr, S. A.....Medico-Dental bldg., Z1 OP
Higbee, D. R.....3245 4th av., Z3 ALR
Kilgore, George L.....205 Medico-Dental bldg. Z1 OP
Koke, Martin P.....233 A. st. OP
Maghy, Charles A.....Medico Dental bldg. Z1 OP
Merrill, H. G.....3245 4th av., Z3 OP
Prendergast, John J.....2001 4th av., Z1 OP
Rees, Charles W.....4496 Trias st., Z3 ALR

SAN FRANCISCO

Barkan, Hans.....2351 Clay st., Z15 OP
Barkan, Otto.....490 Post, Z2 OP
Baron, Shirley Harold.....516 Sutter st. Z2 ALR
Cordes, Frederick C.....384 Post, Z8 OP
Dickey, Clifford A.....450 Sutter st., Z8 OP
Edgerton, Ambrose E.....450 Sutter, Z8 OP
Fishman, Louis Z., Green's Eye Hosp.,
1801 Bush st., Z9 ALR
Fitzhugh, William McP., Jr.....384 Post, Z8 ALR
Gidoll, Sidney H.....516 Sutter, Z2 ALR
Hand, Frank.....450 Sutter, Z8 ALR
Harrington, John Thomas, Comdr. (MC) USNR
Dispensary No. 1, Tadcen, Treasure Island ALR
Hebert, Arthur W.....450 Sutter, Z8 OALR
Hopp, Eugene S.....2547 Chestnut st. Z23 ALR
Horney, Warren D.....490 Post St. Z2 OP
Irvine, Robert Steele .....490 Post, Z2 OALR
Kobrak, Heinrick G.....Capt. (M.C.), Fort Mason ALR
Kress, George H., Apt. 506, 2200 Leavenworth st., Z11 OALR
Lachman, George S., Lt. Comdr. (MC)....2201 Broadway OP
McCool, J. L.....450 Sutter, Z8 OP
Marks, Roland F., Lt. Col. (MC)
Letterman General Hospital, EENT Service ALR
Master, John R., Capt. (MC)....3449 Fillmore St. Z23 ALR
Monson, LaFayette.....450 Sutter, Z8 ALR
Nethercut, Ruth A.....450 Sutter, Z8 ALR
Pierce, George W.....490 Post st., Z2 PI S
Pischel, D. K.....490 Post, Z2 OP
Pischel, Kasper.....490 Post, Z2 OP
Rawlins, Aubrey Gatliff.....384 Post, Z8 ALR
Rodin, Frank Highman.....490 Post, Z2 OP
Rome, Sol, Capt. (M.C.)..Port Dispensary, Fort Mason OP
Selfridge, G. L.....1000 California st., Z8 ALR
Weisser, Charles William, Capt. (MC)
Letterman General Hospital OP

SAN JOSE

Jordan, Philip J.....910 Medico-Dental bldg., Z20 ALR
Martin, Paul T.....235 E. Santa Clara, Z20 ALR

SAN MATEO

Bunnell, Chester William, Capt. (MC) 124 Arrowood Lane ALR
Mohun, Meade.....23 Second av. ALR

SAN PEDRO

Earl, Harry D.....1501 LeGrande Terrace ALR
Snow, Harold L.....639 W. 9th OP

SANTA ANA

Dixon, W. E.....1617 E. 4th OALR
Maxwell, Harvey C...Lt. Col. (M.C.), 1718 N. Main st. OALR
Weaver, E. M. F., Major
AAF Regional Conv. Hosp., Santa Ana AAB OP

SANTA BARBARA

Gibb, William B.....1515 State st. OP
Hombach, Frank J.....1421 State OP
Hunt, Wm. Remfry.....943 Jimeno rd. ALR
Johnston, William H.....1515 State OALR
Johnston, W. R.....1515 State st. ALR
Lewis, J. D.....650 Hot Springs Dr. OALR
Loutfallah, Michel.....1826 State st. OP

CALIFORNIA — Continued

Mellinger, William J.....323 E. Sola st. ALR
Palevsky, Samuel N.....22 E. Los Olivos st. ALR
Semenov, Herman, Major (MC)....Hoff General Hospital ALR
Von Zelinski, Walter Franz.....3015 Hermosa rd. OP

SANTA MARIA
Baird, Charles G., Col. (MC).....OALR
Mesirow, Maurice E.....117 E. Cook OP

SANTA MONICA
Adams, Eldridge S., Colonel c/o C.A.A., 1500 4th St. ALR

SANTA PAULA
Howarth, Ervin McIntyre.....705 Main st. ALR

SOUTH PASADENA
Hall, Lawrence H.....1520 Oak st. OALR

STOCKTON
Saslaw, Lewis Benjamin.....Bank of America bldg., Z5 ALR

VALLEJO
Madeley, Howard Randall.....727 Sonoma OP

VENTURA
Mosher, Walter F.....34 N. Ash st. ALR
Raines, M. M.....107 Live Oak dr. ALR

VISALIA
Keiper, Geo. F.....113 N. Church ALR
Sallander, F. W.....212 W. Main OALR

VISTA
Stewart, Charles E., Jr.....Rt. 2, Box 452 ALR

WEST LOS ANGELES
Hess, Wm. L.....2018 Fairburn Z25 OALR
Morris, S. A.....345 Homewood road Z24 OP

WHITTIER
Smith, H. A.....226 N. Greenleaf av. OALR

COLORADO

ALAMOSA
Herriman, L. L.....Physicians bldg. OALR

BOULDER
Spencer, Frank R.....Physicians bldg. ALR

COLORADO SPRINGS
Bradley, John W., Major (MC).....2212 Wood ave. ALR
Brobeck, von Haller.....Ferguson bldg. OP
Chapman, Katharine H.....304 Burns bldg. OP
Chapman, S. Jefferson.....Burns bldg. ALR
Kettelkamp, F. O.....Ferguson bldg. ALR
Lamberson, William Henry....First National Bank bldg. ALR
Neeper, Edward R.....Exchange National Bank bldg. OP
Nelson, Fritz.....1121 N. Tejon st. OP
Reeder, James E., Jr., Major (MC)
U.S.A. General Hospital, Camp Carson OP
Stine, George H.....Burns bldg. OP

DENVER
Bane, W. M.....1612 Tremont Place, Z2 OALR
Baum, H. L.....Republic bldg., Z2 ALR
Beyer, Theodore E.....227 Sixteenth st., Z2 ALR
Carmody, T. E.....Metropolitan bldg., Z2 ALR PLS
Collins, E. W.....1578 Humboldt, Z6 ALR
Cooper, Kemp G.....Metropolitan bldg., Z2 ALR
Crisp, William H.....Metropolitan bldg, Z2 OP
Danielson, Ralph W.....Metropolitan bldg., Z2 OP
Deems, Myers Bowman, Lt. Col.....1601 Leyden st. ALR
Farrington, P. M. .....Colburn Hotel ALR
Filmer, George A.....1331 S. Marion St. Z10 OP
Flaherty, Norman W., Major (M.C.)
Fitzsimmons Gen. Hosp. Z8 OP
Gale, M. Jean.....Republic bldg., Z2 OP
Greene, Laurence W.....Republic bldg., Z2 ALR
Halsted, Fred S.....Metropolitan bldg., Z2 OALR
Hausmann, Gertrude S. ..... 629 16th st., Z2 OP
Hickey, Harold L.....Republic bldg., Z2 ALR
Laff, H. I.....Metropolitan bldg., Z2 ALR
Leyda, James H.....Metropolitan bldg., Z2 ALR
Long, John C.....Metropolitan bldg., Z2 OP
McKeown, Elmer E.....Republic bldg., Z2 OALR
Marcove, Maurice E.....1612 Tremont pl., Z2 OP
Murphy, Rex L.....Metropolitan bldg., Z2 ALR
Ohmart, Walter A.....Republic bldg., Z2 OP
O'Rourke, D. H.....Republic bldg., Z2 OP
Pattee, George L.....612 Republic bldg., Z2 ALR
Porter, Whitney C.....320 Republic Bldg. Z2 OP
Reynolds, Edna M.....227 Sixteenth, Z2 OP
Sedwick, W. A.....Republic bldg., Z2 OP
Shields, J. M.....Metropolitan bldg., Z2 OP
Swigert, J. Leonard.....Republic bldg. OP
Walker, C. E.....1732 High st., Z6 OP
Wilson, Wm. Hildebrand.....903 Republic bldg. Z2 ALR

ENGLEWOOD
Dart, M. O.....2701 So. Marion st. ALR

GRAND JUNCTION
Cary, G. C.....Canon block OALR
Rigg, James P.....Box 928 OALR
Waldapfel, Richard.....De Merschman Gardens ALR

GREELEY
Atkinson, Thomas Ernest.....Coronado bldg. ALR
Droegemueller, Wm. H.....1845 11th Ave. OP
Lehan, James W.....Park Place bldg. OALR
Ringle, Charles A.....912 Ninth av. ALR

LA JUNTA
Farnsworth, M. A.....Opera House Apt. bldg. OALR

LONGMONT
Hageman, George Ricker.....Longmont Hospital ALR
Sidwell, Clarence Edward.....608 Fourth av. ALR

PUEBLO
Earnest, Clarence E.....Thatcher bldg. ALR
Hopkins, Guy H.....702 N. Main OP
Lassen, Fritz.....Pueblo Clinic OALR
Rusk, Harvey Schenck.....Colorado bldg. OALR

SALIDA
Thompson, Lester Emmit.....Woolworth bldg. ALR

STERLING
Elliff, Edgar Alonzo.....216 N. 3rd. ALR
Palmer, Frank E.....Box 267 OALR

TRINIDAD
Richie, L. T.....101 E. Main OALR

CONNECTICUT

BRIDGEPORT

Dewitt, Edward Nicholas.....881 Lafayette, Z4 **OP**
Garlick, George B......144 Golden Hill, Z3 **ALR**
Kaplan, Leon.....881 Lafayette st., Z4 **OP**
Turchik, Frank.....1831 Barnum av., Z8 **ALR**

GREENWICH

Miller, John.....63 North **ALR**
Yost, W. M.....Lake av. **OP**

HARTFORD

Birge, Henry L......179 Allyn st. **OP**
Connor, Joseph Joyce.....750 Main st., Z3 **OP**
Davis, James Edward.....179 Allyn, Z3 **ALR**
Hogan, W. L.....750 Main, Z3 **OP**
Katz, Dewey.....99 Pratt, Z3 **OP**
Lewis, Samuel D.....49 Pearl st., Z3 **OP**
Little, Milton F.....49 Pearl, Z3 **OP**
Snelling, P. W.....179 Allyn, Z3 **ALR**
Unsworth, Arthur C......179 Allyn st., Suite 508 **OP**
Whalen, Edward J.....750 Main, Z3 **ALR**
Zeman, Michael S.
202-3 Professional Bldg., 179 Allyn st. Z3 **ALR**

MIDDLETOWN

Chase, Carl C.....121 Main **OP**
Joyce, Wm. M.....121 Main st. **ALR**

NEW BRITAIN

Schechtman, Charles T.....81 W. Main **ALR**

NEW HAVEN

Berman, Harry L.....1142 Chapel, Z11 **ALR**
Canfield, Norton, Col. (M.C.).....789 Howard av., Z4 **ALR**
Flynn, Charles T.....41 Trumbull, Z10 **ALR**
Latimer, Marvin L.....129 Whitney av. Z10 **ALR**
MacCready, Paul B.....442 Temple, Z11 **ALR**
Ryder, William H......195 Church st., Z10 **OP**
Sheahan, William L.....59 College, Z10 **OALR**
Silverberg, Samuel Joshua.....315 Whitney av., Z11 **ALR**
Smith, Norman N.....291 Whitney av., Z11 **ALR**
Sperry, Frederick N.....107 Whitney, Z10 **ALR**
Yudkin, Arthur Meyer.....257 Church, Z10 **OP**

NEW LONDON

Wilson, Frank E.....302 State **ALR**

STAMFORD

Murray, Henry J.....53 South **ALR**
Turnley, William H.....One Atlantic **ALR**

STONINGTON

Haines, Henry L., Lt. (M.C.) USNR
Pequot Trail RFD No. 1 **ALR**

TORRINGTON

Hill, E. S.....51 Main **ALR**

WALLINGFORD

Campbell, Sherburne.....270 Center St. **OP**

WATERBURY

Good, William Murray.....63 Center, Z18 **ALR**

WEST HARTFORD

Bausch, Carl P., Comdr. (M.C.),
USNR, 37 Sulgrave rd., Z7 **OP**
Smith, E. Terry.....P. O. Box 42 **OP**

WILLIMANTIC

Arnold, Morton.....781 Main **ALR**

DELAWARE

REHOBATH BEACH

Daisey, Willard O.....30 Park av. **ALR**

WILMINGTON

LaMotte, William O.....Medical Arts bldg., Z9 **OALR**
Mayerberg, Emil R.....Medical Arts bldg., Z9 **ALR**
Pierson, William M.....Medical Arts bldg., Z9 **ALR**
Strikol, A. J.....621 Delaware av., Z9 **ALR**

DISTRICT OF COLUMBIA

ANACOSTIA

Loy, A. W., Capt. (M.C.), USN....U. S. Naval Air Stat. **OP**

WASHINGTON

Alexander, Samuel A......1830 Eye st. N. W., Z6 **ALR**
Bauer, Arthur S......Suite 812, 1801 Eye st. NW Z6 **ALR**
Bell, John Gordon.....1835 Eye st. N. W., Z6 **ALR**
Bockoven, Sterling....1752 Massachusetts av. N. W., Z6 **OP**
Bradley, Jeter C.....900 Seventeenth st., N. W., Z6 **ALR**
Breeding, Earl G.....1801 Eye st., N. W., Z6 **ALR**
Brooks, Richmond C. A.....1150 Connecticut av., Z6 **ALR**
Burtoff, Samuel, Capt. (M.C.)..4410 16th st. N. W., Z11 **ALR**
Clayton, Milton B.....Southern R. R. Office bldg., Z13 **ALR**
Constantinople, P. S.....1801 Eye st., N. W., Z6 **ALR**
Costenbader, Frank D.....1150 Connecticut av., Z6 **OP**
Cox, Ronald Atmore..1779 Massachusetts av., N. W., Z6 **OP**
Cummings, Edward Joseph.....1835 Eye st. N. W., Z6 **ALR**
Davies, H. F.....1835 Eye st. N. W., Z6 **ALR**
Davis, David.....1835 Eye st. N. W., Z6 **ALR**
Dessoff, Joseph.....1726 Eye st. N. W., Z6 **OP**
Downey, Harold R.
Lt. Comdr. (M.C.), 1740 M st. N. W., Z6 **OP**
Feldman, Irvin.....1722 Eye St. N. W. **ALR**
Fischer, Aubrey.....1835 Eye st. N. W., Z6 **ALR**
Flynn, James A.....1511 Rhode Island av. N. W., Z5 **ALR**
Gill, G. Bache.....1726 Eye st. N. W., Z6 **ALR**
Goodman, E. Leonard.....1801 Eye st. N. W., Z6 **OP**
Greear, James M., Jr.....1740 M st. N.W. Z6 **OP**
Hannon, R. Emmet, Major (M.C.)
Walter Reed General Hospital **OP**
Henning, Carl.....1752 Massachusetts av. N. W., Z6 **OP**
Hogsett, Smith Fuller, Jr., Lt. Comdr. (M.C.)
2700 30th st., S.E. Z20 **OP**
House, Hugh O.....1835 Eye st. N. W., Z6 **ALR**
Johnson, Don.....1835 Eye st. N. W., Z6 **ALR**
Kearney, Richard.....2311 Connecticut av., N. W., Z8 **ALR**
Lamb, Robert Scott.....Stoneleigh court, Z6 **OP**
Luber, Samuel.....1801 Eye st. N. W., Z6 **ALR**
Meloy, William C.....2019 R. st. N. W., Z9 **ALR-PLS**
Moffett, Daniel B.....1150 Connecticut av. N. W., Z6 **ALR**
Morgan, William A.....1835 Eye st. N. W., Z6 **ALR**
Morrison, William W., Capt. (M.C.),
Naval Dispensary, Naval Department, Z25 **ALR**
Morrissett, Leslie E., Maj. (M.C.),
Surgeon Geenral's Office **ALR**
Moss, L. Conner.....1705 Rhode Island av. N.W. **OP**
Novick, Joel N.....1726 Eye st. N. W., Z6 **ALR**
Pendexter, R. Stevens.....Farragut Medical bldg., Z6 **OP**
Rones, Benjamin.....1610 Eye st. N. W., Z6 **OP**
Row, D. Hamilton, Comdr. (M.C.)
Nav. Disp. Navy Dept **OP**

WASHINGTON, D. C. — Continued

Runk, R. L.
Washington Sanitarium and Hospital, Tacoma Park, Z12 ALR
Sawyer, Leroy Lee, Jr.....Farragut Medical bldg., Z6 ALR
Schlanser, A. E., Col. (M.C.)..2245 Mt. View Place S. E. OALR
Schnebly, John Thomas.....900 17th st. N.W. Z6 OP
Shepherd, Elmer Roberts.....1746 K st. N. W., Z6 ALR
Sheppard, E. A. W.....927 Seventeenth st. N. W., Z6 OP
Simpson, G. Victor.....1712 Rhode Island ave. Z6 OP
Stow, M. Noel.....1746 K st. N. W., Z6 OP
Swanson, Clifford A., Capt. (M.C.),
The Westchester Apts., 836-B, Z16 OALR
Tegge, Charles William.....1801 Eye st. N. W., Z6 ALR
Trible, G. B.....1150 Connecticut av. N. W., Z6 OALR
Vann, Homer King.....410 Cedar st. N. W., Z12 ALR
Wilber, Inez Edith.....1746 K st. N. W., Z6 OP
Wilkinson, Oscar.....1408 L st. N. W., Z5 OALR
Wilkinson, Richard W.....1408 L st. N. W., Z5 ALR
Wilson, Alfred, Lt. Col. (M.C.)
2910 W st., S.E. Z20 OP
Winer, Albert S.....1835 Eye st. N.W., Z6 ALR
Zinkhan, A. M.....1801 Eye st. N. W., Z6 ALR

FLORIDA

BRADENTON
Best, L. Kent, Lt. Col. (M.C.).....1317 Ard av. OP
Middleton, A. B.....OALR

CLERMONT
Middleton, A. B.....OALR

COCONUT GROVE
Hutchinson, Abbott T.....4086 Roynolds av. ALR

CORAL GABLES
Hasty, F. E.....1203 Asturia ALR

DAYTONA BEACH
Lenholt, Eric H.....101 Lenox av. ALR

DREW FIELD
Glauber, Jerome J., Capt. (M.C.) 0512881
301st AAFBU—Sq. A ALR

FORT LAUDERDALE
Driscoll, Frederick J.....209 S. E. Second Ave ALR
Egan, Burton W.....602 S. E. 6th St. OALR
Enlows, Ella M. A.....2509 Castilla Place ALR
McKee, Thomas L., Major (M.C.)....1733 N.E. 8th st. OP

FORT MYERS
Merrick, Charles Gordon.....Leon bldg. ALR

GAINESVILLE
Flack, J. Vincent, Comdr. (M.C.).....OP

JACKSONVILLE
Brown, C. J., Capt. (M.C.) USN.....Naval Hospital ALR
Friedman, Elmer A., Comdr. (M.C.), USNR,
Hospital, Naval Air Station ALR
Irwin, Thomas M.....Medical Arts bldg.—Park st. ALR
King, Raymond H.....3690 Herschel st. ALR
Knauer, William J.....Buckman bldg., Z2 OALR
McDaniel, Rueben L.....211 St. James bldg. OP
O'Dell, John C., Jr.....Medical Arts bldg., Z4 ALR
Richardson, Shaler.....111 W. Adams, Z2 OP
Taylor, H. Marshall.....111 W. Adams, Z2 ALR
Wilson, Alpheus K.....334 St. James bldg., Z2 ALR

KILLARNEY
Hert, Cecil Benedict, Major (M.C.).....Orange County ALR

LAKE WORTH
Hughes, Ray W.....303 N. Lakeside Drive OALR

MAYPORT
Roberts, Joseph D., Jr. Lt. Comdr. (M.C.)
Dispensary, NAAS ALR

MERRITT ISLAND
Thomsen-von Colditz, G.....Dun Huntin OALR

MIAMI
Black, Nelson Miles.....Huntington bldg., Z32 OP
Brown, Andrew George.....717 DuPont bldg. OP
Chandler, G. E.....Huntington bldg., Z32 ALR
deBoe, M. P.....Huntington bldg., Z32 OALR
Dunaway, Carl E.....711 DuPont bldg. ALR
Hodsdon, B. F.....Box 923, Z6 OALR
Ingersoll, J. M.....1700 S. Bayshore lane, Z33 ALR
Levin, Nathaniel M.....725 S.W. 25th rd. ALR
Mendel, James H.....Ingraham bldg., Z32 ALR
Palmer, Bascom H.....Huntington bldg., Z32 OALR
Park, M. B.....325 Ingraham bldg., Z32 OP
Repass, R. E.....924 N.E. 78th st. Z38 ALR
Richardson, John Roberts.....722 Dupont bldg. ALR
Weinstein, Philip.....Ingraham bldg., Z32 ALR

MIAMI BEACH
Denman, Francis E.....541 Lincoln road, Z39 ALR
Hollender, Abraham R.....605 Lincoln rd. ALR
Hotchkiss, W. T.....541 Lincoln road, Z39 ALR
McLemore, Carl Sloan.....541 Lincoln Rd. ALR
Rosen, Emanuel, Capt. (M.C.).....730—8th st. OP

OCALA
Russell, Ralph Edward .....OP

ORLANDO
Campbell, Mac D., Capt. (M.C.),
Station Hospital, A.A.F.S.A.T. OALR
Ingram, Hollis Carlyle.....303 Exchange bldg. OP
Johnston, Hewitt.....303 Exchange bldg. ALR
Shoemaker, Samuel A.....613 S. Hyer st. OALR

PALATKA
Wattles, F. Merrill, Lt. Comdr. (M.C.) USNR
501 N. 3rd st. ALR

PALM BEACH
Constantine, K. W.....229 Barton av. OP

PENSACOLA
Davis, Oscar, Capt. (M.C.) USN, U. S. Naval Hospital OALR
Heimberg, Charles J.....Medical Center ALR
Lischkoff, M. A.....Blount bldg. OALR
McAlester, A. W., 3rd., Lt. Comdr. (M.C.) USNR
U. S. Naval Hospital OP
McLane, Jesse Newman.....Blount bldg. ALR
Rubin, Nathan S.....404-407 Blount bldg. OP

ST AUGUSTINE
Grace, Charles C.....145 King st. ALR

ST. PETERSBURG
Heard, Mary K.....(Retired) R.F.D. 2, Box 75, Z6 OP
McNay, Miller Ost.....472 Central av., Z5 ALR
Nelson, Orville N.....1008 First Federal bldg. OALR
Solomon, Henry D.....Power and Light bldg., Z5 ALR

FLORIDA — Continued

SHALIMAR

Harlowe, Harold Douglas Major (M.C.).....Box 41 **ALR**

TAMPA

Duke, R. R.....706 Franklin, Z2 **ALR**
Forbes, Sherman B. .....706 Franklin, Z2 **OP**
Lowry, B. W.....Citizens Bank bldg., Z2 **OALR**
Taylor, Joseph W.....706 Franklin, Z2 **OALR**

WEST PALM BEACH

Miller, Alice R.....505 Guaranty bldg. **OALR**
Sayad, William Y.....Harvey bldg. **OALR**

WINTER HAVEN

Odeneal, Thomas H.....Coker bldg. **OALR**

GEORGIA

ATLANTA

Baird, James Mason.....511 Medical Arts bldg. **OP**
Beck, Frederick W., Major (M.C.) Lawson Gen. Hosp. **ALR**
Birch, John R., Major (M.C.)....Lawson General Hosp. **ALR**
Brawner, Leon Edward.....Medical Arts bldg., Z3 **ALR**
Burke, B. Russell.....1996 Ponce de Leon av. N.E., Z3 **ALR**
Calhoun, F. Phinizy.....478 Peachtree st. N. E., Z3 **OP**
Campbell, W. E., Jr.....Medical Arts bldg., Z3 **OP**
Clay, G. E.....Medical Arts bldg., Z3 **OP**
Equen, M. S.....144 Ponce de Leon av. N. E. **ALR**
Hallum, Alton V.....478 Peachtree st. N. E., Z3 **OP**
Howell, Stacy C.....478 Peachtree st. N. E., Z3 **OP**
Lokey, H. M.....Medical Arts bldg., Z3 **OALR**
McDougall, J. Calhoun.....Medical Arts bldg., Z3 **ALR**
McDougall, William L.....Doctors' bldg., Z3 **ALR**
Martin, William O., Jr.....478 Peachtree st. N.E., Z3 **OP**
Ogden, Fred W.....144 Ponce de Leon Ave. N.E. **ALR**
Warren, William C., Jr.....Doctors' bldg., Z3 **ALR**
Wright, Edward S.....410 Medical Arts bldg. **ALR**

AUGUSTA

Budetti, Joseph A.
Capt. (M.C.), Oliver General Hospital **ALR**
Diess, Robert G., Maj. (M.C.),
Oliver General Hospital, Forest Hills **OP**
Lewis, Samuel J.....S. F. C. bldg. **ALR**

CAMP GORDON

Lowenstein, Harold H., Maj. (M.C.), 0-1689879
Personnel Center **OP**

COLUMBUS

Blackmar, Francis B., Major (M.C.)...1243 Forrest av. **ALR**

FT. BENNING

Lippman, Otto, Capt. (M.C.).....Regional Hospital **OP**

MACON

Smith, J. Allen.....Doctors' bldg. **ALR**

MOULTRIE

Paulk, James R., Capt. (M.C.)..... **OP**

ROME

Goldsmith, Jacob, Major (M.C.), Battey General Hosp. **OP**
Smith, George B.....Harbin Hospital **OALR**

SAVANNAH

Faggert, George H.....18 W. Oglethorpe av. **ALR**
Lang, George Hermanne.....202 E. Liberty **ALR**

WAYCROSS

Collins, Braswell E.....701 Elizabeth St. **ALR**

IDAHO

BOISE

Hedemark, Norman, Major (M.C.) 218 Eastman Bldg. **OALR**
Jones, Arthur C.....518 Eastman bldg. **ALR**
Peterson, Roy L.....218 Eastman bldg. **ALR**

FARRAGUT

Smith, A. C., Capt. (M.C.) USN...U. S. Naval Hospital **OALR**
Weber, H. C., Capt. (M.C.) USN
Station Personnel Dispensary, U. S. Naval Center **OALR**

NAMPA

Shawhan, Glenn E.....Dewey Scales bldg. **OALR**

POCATELLO

Clothier, Joseph.....Kane bldg. **OALR**
Clothier, William L.....407-11 Kane bldg. **OP**
Pond, Casper W.....Carlson bldg. **ALR**

ILLINOIS

ALTON

Jones, F. W.....101 E. Broadway **OALR**
Middleton, Harry E.....206A W. 3rd **OALR**
Rawlins, Grove A.....206A W. 3rd **ALR**

AURORA

Darmer, George A.....Terminal bldg. **OALR**

BELLEVILLE

Otrich, Grover C.....Commercial bldg. **ALR**
Schwartz, F. O.....230 E. Main **OP**

BLOOMINGTON

Elliott, J. Norman.....Griesheim bldg. **ALR**
Gailey, Watson W.....1008 N. Main **OALR**
Morgan, George E....Gailey Eye Clinic, 1008 No. Main st **OP**
Watkins, Harold R.....Griesheim bldg. **ALR**

CARBONDALE

Brooks, Clyde M.....105 South University av. **ALR**

CENTRALIA

Hirschfelder, Max Kurt.....408 W. 2nd **OP**

CHAMPAIGN

Albers, Ed. C.....104 W. Clark **OP**
Ford, Hanby Lewis.....Robeson bldg. **OALR**

CHANUTE FIELD

McQuiston, Ralph J., Lt. Col. (M.C.)
AAF Regional Station Hospital **ALR**
Stoner, Cyrus H., Major (M.C.).....c/o Base P.O. **OP**

CHICAGO

Ackerman, Walter Gabe.....104 S. Michigan av. Z3 **OP**
Allen, Thomas Dyer.....122 South Michigan av., Z3 **OP**
Andrews, Albert H., Jr.....700 N. Michigan av., Z11 **ALR**

ILLINOIS — Continued

Apple, Carl.....55 East Washington, Z2 OP
Austin, Marvin F., Lt. Col. (M.C.)
Suite 1712, 30 N. Michigan av. ALR
Barnett, Irving F.....30 North Michigan av., Z2 OALR
Becker, Oscar J.....30 N. Michigan av., Z2 ALR
Beem, Ione F.....30 North Michigan av., Sec. 2, Z2 OALR
Bellows, John G.....Rm. 1729, 30 No. Michigan Z2 OP
Benz, Alvin H., Major (M.C.).....818 N. Rush st., Z11 OP
Bernheimer, L. Benno.....104 S. Michigan av., Z3 ALR
Blonder, Edwin J.....25 E. Washington st., Z2 ALR
Blumklotz, Bruno.....25 E. Washington st., Z2 ALR
Boden, Worthey C.....6537 Kenwood Z37 ALR
Bothman, Louis.....30 N. Michigan av., Z2 OP
Brandenburg, Nora B.....720 N. Michigan av., Z11 ALR
Brawley, F. E.....30 N. Michigan av., Z2 OP
Bredlau, Ernest A.....2753 W. North, Z47 ALR
Brunner, Hans.....307 North Michigan av., Z1 ALR
Campbell, Paul A.....Suite 314, 700 N. Michigan av. ALR
Carelli, Paul Vincent.....3626 W. Chicago av., Z51 OP
Chainski, Edward L.....130 N. Wells, Z6 ALR
Christoph, Carl H.....30 N. Michigan av., Z2 OALR
Clark, James W., Major (M.C.) 0-485108
2250 W. 91st st. Z20 OP
Cleff, Oscar.....55 E. Washington, Z2 OALR
Clement, C. C.....30 N. Michigan av., Z2 OALR
Cohen, Bernard M.....25 E. Washington st. Z2 ALR
Coombs, A. J.....30 N. Michigan av., Z2 ALR
Cottle, Maurice H.....30 N. Michigan av., Z2 ALR
Crage, Francis M.....25 E. Washington st., Z2 OP
Crane, Cyril Vincent.....6810 S. Loomis blvd. Z36 OP
Crossley, E. R.....4144 Sheridan rd., Z13 OALR
Cushman, Beulah.....25 E. Washington, Z2 OP
Davidson, H. P.....30 N. Michigan av., Z2 OP
DeLozier, Leonard Cecil
Suite 1712, 30 No. Michigan av. Z2 ALR
Delph, John F.....700 N. Michigan av., Z11 ALR
Dougherty, Clifford L.....55 E. Washington, Z2 ALR
Duboe, Sidney H.....6326 M. Francisco Z45 ALR
Fabricant, Noah D.....185 N. Wabash av., Z1 ALR
Findlay, E. K.....30 N. Michigan av., Z2 OP
Fitzgerald, J. P.....30 N. Michigan av., Z2 OP
Fitzgerald, James Robert.....3215 W. North Ave. Z47 OP
Fowler, Earle B.....55 E. Washington, Z2 OP
Fox, Noah.....841 E. 63rd, Z37 ALR
Friedberg, Stanton A.....122 S. Michigan Ave. Z3 ALR
Gamble, Richard Cotter.....30 N. Michigan av., Z2 OP
Glatt, Morris A.....55 E. Washington, Z2 ALR
Goldenburg, Michael.....104 S. Michigan av., Z3 OP
Gradle, H. S.....58 E. Washington, Z2 OP
Green, Hyman S.....25 E. Washington st. OALR
Gustafson, Olga Frideberg.....185 N. Wabash av., Z1 OP
Guttman, M. Reese.....30 N. Michigan av., Z2 ALR
Hagens, Elmer William.....30 N. Michigan, Z2 ALR
Hall, Alice K.....25 E. Washington, Z2 ALR
Hayden, Jerome William.....4458 Madison st., Z24 ALR
Hipskind, Myron Maxwell.....6060 Drexel av., Z37 ALR
Hoeltgen, Maurice M.....1607 West 51st st., Z9 OP
Hoffman, L. G.....30 N. Michigan av., Z2 OALR
Hoffman, William A.....30 N. Michigan, Sec. 2., Z2 OP
Holinger, Paul H.....700 N. Michigan av., Z11 L
Holt, Helen.....720 North Michigan av., Z11 OP
Howard, William H.....9152 Commercial av., Z17 OP
Hurwitz, Paul
Suite 1532 Field Annex Bldg., 25 E. Washington st Z2 OP
Jacobs, Milton.....122 S. Michigan av., Z3 OP
Jenkins, Albert H., Lt. Col....2749 W. Arthur av. Z45 ALR
Jones, William M.....5254 Michigan av. OP
Juers, Arthur L.....122 S. Michigan av., Z3 ALR
Kammerling, Theodore S.....616 N. Central av., Z44 OALR
Kaufman, Samuel I.....185 N. Wabash av., Z1 OP
Kerst, John Arthur
c/o W. K. Eberly, 1444 Lake Shore dr. Z10 OP
Kerwin, Raymond W.....310 S. Michigan av., Z4 OALR
Klawans, Harold L., Major (M.C.).20 E. Jackson blvd. Z4 ALR
Klien, Bertha A.....58 E. Washington, Sec. 2., Z2 OP
Koch, Harold J.....6235 S. Kedzie av., Z29 OP
Kraft, Oscar H.....1518 N. Dearborn Parkway, Z10 OP
Krause, Arlington C.....950 E. 59th, Z37 OP
Kronfeld, Peter C.....904 W. Adams, Z7 OP
Kulvin, Max M.....5110 Kenwood av., Z15 OALR
LaReau, Hector G.....4803 Lincoln av., Z25 ALR
Lazar, A. M.....30 N. Michigan av., Z2 ALR
Lazar, Nathan K. ..Room 2025 - 25 E. Washington, Z2 OP
Lebensohn, James E..6200 N. Kenmore av. Apt. 1022 Z40 OALR
Leech, Vernon M.....55 E. Washington, Z2 OP
Leshin, Norman.....55 E. Washington st., Z2 ALR
Lewy, Alfred.....25 E. Washington st., Z2 ALR
Lewy, Robert B.....25 E. Washington st., Z2 ALR
Lifschutz, Jacob.....30 N. Michigan av., Z2 OALR
Lindsay, John R.....950 E. 59th, Z37 ALR
Livingston, George S.....185 N. Wabash av., Z1 ALR
Lockwood, Chester C., Capt. (M.C.)....4707 Broadway OP
Lyons, H. R.....1301 N. State St. Z10 ALR
McBean, George M.....25 E. Washington, Z2 OALR
McIntyre, George Fillmore.....25 E. Washington, Z2 ALR
McRoberts, Earl S. .....55 E. Washington, Z2 ALR
Mann, William A.....30 N. Michigan av., Z2 OP
Matzkin, Lloyd L.....1525 E. 53rd St. Z15 ALR
Meyer, Samuel J.....58 E. Washington, Z2 OP
Moncreiff, William F.....58 E. Washington, Z2 OP
Morwitz, Samuel M.....55 E. Washington, Z2 ALR
Mundt, G. Henry.....30 N. Michigan av., Z2 OALR
Muskat, Irving.....25 E. Washington, Z2 OALR
Nance, Willis O.....6845 Euclid av., Z49 OALR
Nash, Herbert T.....31 N. State, Z2 ALR
Nethercut, Glenway W.....25 E. Washington, Z2 OP
Noonan, W. J.....4753 Broadway, Z40 OALR
Novak, Frank J., Jr.....30 N. Michigan av., Z2 ALR
Nugent, Oscar B.....231 W. Washington, Z6 OP
O'Connor, Philip D.....30 N. Michigan av., Z2 OP
O'Connor, Thomas P.....30 N. Michigan Z2 ALR
Orcutt, D. C.....55 E. Washington, Z2 OALR
Pearlman, S. J.....55 E. Washington, Z2 ALR
Pellettiere, Edmund V.....1530 N. Damen av., Z22 ALR
Perlman, Henry B.....950 E. 59th, Z37 ALR
Perritt, Richard A.....30 N. Michigan av., Z2 OP
Pollack, Samuel.....2909 W. Estes av., Z45 ALR
Prohovnik, Julius.....9 S. Kedzie av. ALR
Puntenney, Irving.....720 N. Michigan av., Z11 OP
Roling, Edward A.....2753 W. North av., Z47 OP
Roper, Kenneth L.....58 E. Washington, Z2 OP
Salinger, Samuel.....25 E. Washington, Z2 ALR
Savitt, Louis.....3403 Lawrence av., Z25 ALR
Scheffler, Milton Morris.....55 E. Washington st. Z2 OP
Scheribel, Karl J.....55 E. Washington, Z2 OP
Schoolman, Joseph G.....104 S. Michigan, Z3 ALR
Sciarretta, S. A.....55 E. Washington, Z2 ALR
Selinger, Elias.....104 S. Michigan av., Z3 OALR
Shambaugh, George E., Jr.....122 S. Michigan av., Z3 ALR
Shanedling, Philip D., Lt. (M.C.), 6832 Paxton, Z49 OP
Shapira, Theodore M.....58 E. Washington, Z2 OP
Shapiro, S. L.....25 E. Washington st. ALR
Smiley, Wm. A.....104 S. Michigan Ave. Z3 ALR

ILLINOIS — Continued

Smith, Hiram J.....30 N. Michigan av., Z2 **OP**
Snitman, Maurice F......55 E. Washington st., Z2 **ALR**
Soboroff, Simon H.....1608 Milwaukee av., Z47 **ALR**
Sowers, Alva Boyd.....6 N. Michigan av., Sec. 2, Z2 **OP**
Strauss, J. F.....104 S. Michigan av., Z3 **ALR**
Sugar, H. Saul.....58 E. Washington st., Z2 **OP**
Sullivan, Clifford P.....304 W. 63rd St., Z21 **OP**
Theobald, Walter H......307 N. Michigan av., Z1 **ALR**
Tindal, John M.....5517 W. Fulton, Z44 **OALR**
Tivnen, Richard J.....30 N. Michigan av., Z2 **OALR**
Vail, Derrick.....Rm. 2605, 55 E. Washington st., Z2 **OP**
Van Alyea, O. E.....135 S. La Salle, Z3 **ALR**
Van Wien, Stefan.....104 S. Michigan blvd. **OP**
Von der Heydt, Robert.....25 E. Washington, Z2 **OP**
Wescott, Virgil.....30 N. Michigan av., Z2 **OP**
Whitsell, Fay M.....826 E. 61st st. **OP**
Wolniak, Frank.....4649 S. Ashland av., Z9 **ALR**
Zekman, Theodore N., Capt. (M.C.)
1627 Hyde Park blvd. Z15 **OP**

CHICAGO HEIGHTS
Gorrell, T. J. H.....16th and Vincennes av. **OALR**

DANVILLE
Baldwin, H. E.....139 N. Vermillion **OALR**
Baldwin, Stephen Glidden.....Adams bldg. **ALR**
Fink, Otto E.....9 W. Madison **OP**

DECATUR
Hubble, William Fields.....Citizens bldg., Z30 **ALR**

DIXON
McNichols, W. A.....101 W. First, Z3 **OALR**

EAST ST. LOUIS
Hanson, William Ludwig.....Spivey bldg. **ALR**
Spitze, E. C.....Murphy bldg. **OP**

ELGIN
Russell, Roland D.....Room 808 Professional bldg. **ALR**

EVANSTON
Dodd, Oscar.....636 Church st. **OP**
Eubank-Jones, Miriam D.....944 Maple av. **OP**
Galloway, T. C.....636 Church st. **ALR**
Lawson, L. J.....636 Church st. **ALR**
McBride, Linn Frederick.....1501 Asbury av. **ALR**
McGarry, H. Isabelle.....636 Church st. **OP**
Soper, Gail Raney.....636 Church st. **OP**

FREEPORT
Clark, J. Sheldon .....509 State Bank bldg. **OALR**

GALESBURG
Herzog, Max, Capt. (M.C.).....Mayo General Hospital **OP**

GREAT LAKES
Knight, John S., Comdr. (M.C.) USNR.U. S. Nav. Hosp **ALR**

HIGHLAND PARK
Henner, Robert, Capt. (M.C.).....2315 Sheridan rd. **ALR**

HINES
Milder, Benjamin, Capt. (M.C.),
Veterans Administration Facility, Box 56 **OP**

HINSDALE
Hara, H. James.....Hinsdale Sanitarium and Hospital **ALR**

HOMEWOOD
Dillon, Elmo E.....1952 Ridge road **OALR**

JACKSONVILLE
Adams, A. L.....Professional bldg. **OALR**

JOLIET
Lennon, Robert Watson.....58 N. Chicago st. **OP**
Woodruff, George H.....250 N. Ottawa **ALR**
Woodruff, H. W.....250 N. Ottawa **OALR**

KANKAKEE
Geiger, C. W.....Arcade bldg. **OALR**
Judd, Delbert K.....420 Arcade bldg. **ALR**

LA GRANGE
Ehrmann, Evelina W.....327 S. La Grange road **OP**

LA SALLE
Woods, R. H.....153 Marquette **OP**

MACOMB
Duntley, G. S.....Box 47 **OALR**

MATTOON
Jones, Florentine B.....416 South 17th **ALR**
Voigt, C. B.....1702 Broadway **OALR**

MAYWOOD
Spiesman, Irwin G. .....1908 St. Charles rd. **ALR**

MOLINE
Flatley, T. J.....1518 Fifth av. **OALR**

MONMOUTH
Evers, Lorance Bixler, Capt (M.C.).....1102 E. Bdwy. **ALR**

NORMAL
Hartenbower, George E.....1212 Broadway **ALR**

OAK PARK
Palmer, Mahlon Phelps.....715 Lake **ALR**
Theobald, Georgiana Dvorak.....715 Lake **OP**
Theobald, John J.....715 Lake **ALR**
Vorisek, Elmer A., Lt. Col. (M.C.) 1041 Lyman Ave. **OP**

OLNEY
Fisher, H. Noland.....106 N. Silver st. **OP**

OTTAWA
Guibor, George P.....303 Central Life bldg. **OP**

PARK RIDGE
Riser, Roy O.....120 Main **OP**

PEKIN
Glasford, S. T.....416 Elizabeth **OALR**

PEORIA
Blickenstaff, A. J.....Alliance Life bldg., Z2 **OALR**
McGrath, Philip R.....82-845 Jefferson bldg. **ALR**
Owen, Walter E.....1242 Jefferson bldg., Z2 **ALR**
Pannabecker, Charles L.....434 Jefferson bldg., Z2 **OP**
Sneller, Charles D.....320 Jefferson bldg. **ALR**

ILLINOIS—Continued

QUINCY
Gabriel, C. K.....Illinois State Bank bldg. OALR
Gilfillan, Homer J.....1416 Main st. ALR
Mercer, Ray, Col. (M.C.).....811-13 W.C.U. bldg. OALR
Stevenson, Walter.....W. C. U. bldg. OALR
Stevenson, Walter D., Jr., Major (M.C.), 407 S. 18th st. ALR

RANTOUL
Straus, G. D., Capt. (M.C.).....Chanute Field ALR

ROCKFORD
Blomberg, T. E.....501 Seventh ALR
Fringer, W. R.....109 Sheridan st. OP
Pritikin, Roland I.....1211 Talcott Bldg. OP

ROCK ISLAND
Schneck, Nathan.....Rock Island Bank bldg. ALR

SKOKIE
Wallner, Linden J...Maj. (M.C.), 4350 Bobolink Terr. ALR

SPRINGFIELD
Broadwell, Stuart, Jr.....103½ N. 5th ALR
Deal, John Francis.....522 E. Capitol av. OALR
Duncan, Perry E.....405 E. Capitol av. OP
Smith, Herschel S.....536 S. State st. OP

STERLING
Brodrick, Frank W.....302 First av. OALR
Sullivan, Timothy.....104 15th av. ALR

STREATOR
Lester, Harry S.....Murray bldg. OALR

URBANA
Porter, George LeRoy.....602 W. University av. OP
Thacker, Edgar A.....602 W. University av. ALR

WAUKEGAN
Harrison, Glen H.....307 Washington OP

WHEATON
Maxwell, Joseph S.....214 N. Hale OP

WINNETKA
Ballenger, Howard C.....723 Elm ALR

INDIANA

ANDERSON
Larmore, Joseph L.....117 W. 13th St. ALR

BLOOMINGTON
Geiger, Dillon.....N. Fee Lane ALR

BLUFFTON
Smith, H. Brooks.....303 S. Main OP

CRAWFORDSVILLE
Lingeman, B. N.....Ben Hur bldg. ALR

EVANSVILLE
Leich, Charles F.....124 S. E. First st. Z8 ALR
Ravdin, B. D.....Hulman bldg., Z18 OALR
Ravdin, M.....1666 Bayard Pk. dr., Z14 OALR
Wesson, Thomas W.....124 S. E. 1st, Z8 ALR

FORT WAYNE
Bulson, Eugene Loring.....347 W. Berry, Z2 OALR
Gessler, William F.....2902 Fairfield av., Z6 OALR
Mueller, Lawrence W.....2301 Fairfield av. ALR
O'Rourke, Carroll.....604 W. Berry st. ALR
Rothberg, Maurice.....712 Wayne Pharm. bldg. OP

GARY
Carmody, Raymond Francis.....504 Broadway OP
Rubin, Milton R.....504 Broadway, Suite 725 ALR

HAMMOND
Kuhn, Hedwig S.....112 Rimbach OP
Kuhn, Hugh A.....112 Rimbach OALR
Lloyd, A. W.....Lloyd bldg. OALR

HARTFORD CITY
Owsley, Guy A., Col. (M.C.).....214 N. High ALR

INDIANAPOLIS
Adams, D. S.....520 Hume-Mansur bldg., Z4 OALR
Alvis, Edmond Ochs.....320 Hume-Mansur bldg., Z4 OP
Aronson, Sidney S., Major (M.C.)..1701 N. Illinois st. ALR
Berry, D. F.....Bankers Trust bldg., Z4 ALR
Blackford, Roger W.....503 Hume-Mansur bldg., Z4 ALR
Brown, David Edward.....520 Hume-Mansur bldg., Z4 ALR
Clark, Cecil P.....922 Hume-Mansur bldg., Z4 OP
Craft, Kenneth L.....1002 Hume-Mansur bldg., Z4 ALR
Dearmin, Robert M.....3440 N. Meridian St. ALR
Dyar, Edwin William,.....5407 Kenwood av., Z8 OP
Ellis, Bert E.....303 Hume-Mansur bldg., Z4 ALR
Garrett, John D.....Bar Association bldg., Z4 ALR
Harding, Myron S.....308 Hume-Mansur bldg., Z4 OP
Harris, Carl B.....319 Hume-Mansur bldg., Z4 OP
Hughes, W. F.....401 Hume-Mansur bldg., Z4 OP
Jones, David E.....Chamber of Commerce, Z4 ALR
Kogut, Lewis V., Capt. (M.C.),
1583rd SCU, 2015 S. Penn st. OP
Larkin, Bernard J.....305 Hume-Mansur, Z4 OP
Leasure, J. Kent.....611 Hume-Mansur bldg., Z4 ALR
Lingeman, Edward Laurel....315 Hume-Mansur bldg., Z4 ALR
Littell, J. Jerome .....603 Hume-Mansur bldg., Z4 ALR
McCaskey, C. H.....Guaranty bldg., Z4 ALR
Manion, Marlow W.....601 Hume-Mansur bldg., Z4 ALR
Mann, Mortimer.....323 Hume-Mansur bldg., Z4 OP
Masters, John M.....805 Hume Mansur bldg. Z4 OP
Masters, Robert J.....805 Hume-Mansur bldg., Z4 OP
Molt, William F.....Bankers Trust bldg., Z4 ALR
Norris, Mary Alice.....404 Hume-Mansur bldg., Z4 OP
Pfafflin, C. A.....Bankers Trust bldg., Z4 OALR
Rutherford, C. W.....4601 N. Pennsylvania, Z5 OP
Sage, Russell A.....505 Hume-Mansur bldg., Z4 ALR
Sparks, Alan Leo.....1024 Hume-Mansur bldg. Z4 ALR
Sputh, Carl B.....224 N. Meridian st., No. 301, Z4 ALR
Swan, John R.....915 Hume-Mansur bldg., Z4 ALR
Van Osdol, Harry A....Chamber of Commerce bldg., Z4 ALR
Whitaker, Joel.....807 Hume-Mansur bldg., Z4 OALR
Wright, J. William.....301 Hume-Mansur bldg., Z4 ALR

KOKOMO
Adams, Charles Joseph.....Armstrong-Landon bldg. OALR
Good, Richard P.....308 Armstrong-Landon bldg. ALR

LAFAYETTE
Calvert, Raymond R.....314 N. 6th st. OP
Peterson, Joel A.... .....609 Lafayette Life bldg. ALR
Van Buskirk, Edmund Linford ..... 308-312 N. 8th OP

INDIANA — Continued

LOGANSPORT
Adamski, Michael S.....408 North st. OP
Hickman, Warren R.....211 Third ALR
Holmes, Will W.....R.F.D. 4 ALR

MARION
Braunlin, William H.....Marion National Bank bldg. OALR

MICHIGAN CITY
Krieger, G. M.....701 Washington OALR

MUNCIE
Deutsch, William, Jr.....309 Johnson bldg. ALR
Hill, Howard E., Lt. Col. (M.C.)
402 W. Jackson st. POB 774 ALR

NEW CASTLE
Smith, Robert Arvil, Lt. Col. (M.C.)....635 S. 11th st. ALR

RICHMOND
Holland, Emory E.....1907 E. Main st. OP

SOUTH BEND
Cassady, J. Vernal.....Sherland bldg., Z9 OALR
Rigley, Edward L. .....408 Sherland bldg. Z9 ALR
Rudolph, Carl J., Major (M.C.).....2016 E. Madison st. OP
Savery, C. E.....Sherland bldg., Z9 OALR

TERRE HAUTE
Allen, Orris T.....Rose Dispensary bldg. OALR
Gillum, J. R.....221 S. 6th OALR
McBride, Noel S.....12 S. 7th OP
Mahoney, Charles L.....1438 S. Center st. ALR
Stewart, Walter E.....Tribune bldg. OALR

TIPTON
Overman, Frederick V.....222 W. Jefferson ALR

UNION CITY
Ruby, F. McK.....235 W. Pearl OALR

IOWA

AMES
Thorburn, O. L.....Box 355 ALR

BRITT
Gunderson, Ernest O.....c/o Mrs. Carl Frick OP

BURLINGTON
La Force, E. F.....Iowa State Bank bldg. OALR
Lee, Wayne Robert.....613 Medical Arts bldg. ALR
Pearson, George J.....320 N. 3rd ALR

CARROLL
Anneberg, Adrian R.....1332 N. Carroll st. ALR
McConkie, Willis L..... ALR

CEDAR RAPIDS
Foster, Wayne J.....Higley bldg. ALR
Noe, Carl A.....601 Higley bldg. OALR
ven Lackum, John Kenneth...Merchants Nat'l Bank bldg. ALR

CLARINDA
Greenlee, Max R.....105 Willow st. ALR

CLINTON
Foster, Warren H.....217 Fifth av. S. ALR
Weih, E. P.....217 Fifth av. S. OALR

COUNCIL BLUFFS
Dean, F. W.....22 S. Sixth OALR
Howard, Lloyd G.....Park bldg. OALR

CRESTON
Childs, H. A.....1016 W. Adams OALR

DAVENPORT
Hands, Sidney G.....201 W. 2nd ALR
Harkness, Gordon F.....Putnam bldg. OALR
Hofmann, W. P.....Kahl bldg. OALR
Lamb, Harry Howe.....220 Main ALR
Rock, John Emmett.....Putnam bldg. ALR
Shurtleff, Raymond S. .....2224 Harrison st. ALR

DES MOINES
Downing, James A.....Bankers Trust bldg., Z9 ALR
Jones, Cecil C.....Equitable bldg., Z9 OALR
Kos, Clair M.....534 29th st. ALR
Lynch, Robert J.....Equitable bldg., Z9 ALR
Merkel, Byron M.....718 Equitable bldg., Z9 ALR

DUBUQUE
Connelly, Edgar.....7 Roshek bldg. ALR
Langworthy, Henry G.....394 W. 10th st. ALR
Pickard, John C.....1200 Main st. ALR
Quinn, Francis P.....Roshek bldg. ALR
Steffens, Lincoln F.....1200 Main st. OP
Thompson, Howard E. .....1100 Main OALR
Thorson, John A.....Roshek bldg. OP

FORT DODGE
Chase, S. B.....Carver bldg. OALR
Kluever, Herman C., Lt. Comdr. (M.C.), 321 N. 18th st. OP

FORT MADISON
Reimers, R. S.....613 Eighth ALR

IOWA CITY
Allen, James Harrill.....University Hospitals OP
Albright, George C.....104 S. Clinton ALR
Boiler, William F., Maj. (M.C.),.... 206 Dey bldg. OALR
Leinfelder, Placidus J.....University Hospital OP
Lierle, Dean M.....University Hospital ALR-PI S
O'Brien, C. S.....University Hospital OP

LE MARS
Joynt, M. J.....Royal bldg. ALR

MARSHALLTOWN
French, R. F.....Masonic Temple OALR
Wolfe, Otis R.....Masonic Temple OP

MASON CITY
Chenoweth, Charlie Everette.....Forester's bldg. ALR
Fallows, Howard D.....Forester's bldg. OALR
O'Brien, Steve A.....First Nat'l Bank bldg. OALR

MUSCATINE
Goad, R. R., Capt. (M.C.), USN.....207 Broadway OP

OTTUMWA
Prewitt, Leland H., Major (M.C.).....1407 E. 4th St. ALR

IOWA — Continued

SHENANDOAH
Maloy, Wayland H. ..... 608½ W. Sheridan av. **OP**

SIOUX CITY
Decker, J. C. ..... Frances bldg., Z8 **OALR**
Dvorak, Joseph E. ..... Davidson bldg., Z13 **OP**
Gittins, T. R. ..... Davidson bldg., Z13 **OALR**
Reeder, J. E. ..... Davidson bldg., Z13 **OALR**
Tripp, LeRoy R. ..... 909 Badgerow bldg. **OALR**

VILLISCA
Francis, Norton L., Lt. Comdr. (M.C.), USNR. ..... **ALR**

WATERLOO
Bender, H. A. ..... Black bldg. **ALR**
Joynt, A. J. ..... 525 Sycamore **OALR**
Reuling, F. H. ..... Black bldg. **OALR**
Russell, R. E. ..... 531 Commercial **OALR**

KANSAS

ATCHISON
Bribach, Eugene J. ..... Professional bldg. **OALR**

COFFEYVILLE
Chadwick, Ira B. ..... 717½ Walnut **OALR**

CONCORDIA
Robertson, Edward N. ..... New Caldwell bldg. **OALR**

EMPORIA
Granger, W. B. ..... Gazette bldg. **OALR**

HUTCHINSON
Greever, Boyd L. ..... 100 N. Main **OALR**
Quiring, Walter O. ..... 100 First West **ALR**
Scales, Wm. McVey ..... 100 N. Main **OP**

KANSAS CITY
Billingsley, John A. ..... Huron bldg., Z10 **OP**
Mullen, Clifford J. ..... 424 Brotherhood bldg. Z11 **OP**
Ryan, Maurice J. ..... 2016 Elizabeth Ave., Z2 **ALR**
Ryan, Michael J. ..... 310 Huron Bldg. Z10 **ALR**
Spake, LaVerne B. ..... Brotherhood bldg., Z11 **ALR**

NEWTON
Morgan, Harold E. ..... 314 E. 3rd st **OP**

PARSONS
Blasdel, Tyler David ..... 110½ S. 18th **ALR**

PITTSBURG
Haas, Louis Richard ..... Smith Clinic **OALR**

PRATT
Pitman, Will D. ..... First Nat'l Bank bldg. **ALR**

SALINA
Cheney, Ralph E. ..... United bldg. **OP**
Ogus, Alfred, Capt. (M.C.), ... Army Air Base **ALR**

TOPEKA
Allen, G. V. ..... 914 Douthitt **OALR**
Ashley, Byron J. ..... 2315 W. 13th st. **OALR**
Boggs, Frank C. ..... Mills bldg. **OP**
Powers, Harold W. ..... 705 National Reserve Bldg. **ALR**
Reed, William W. ..... Mills bldg. **ALR**

WICHITA
Brownell, Morton E. ..... 106 W. Douglas, Z2 **OP**
Carter, E. D. ..... Central bldg., Z2 **ALR**
Cheney, James W. ..... Schweiter bldg., Z2 **OALR**
Gillett, Wilbur G. ..... 201½ N. Main, Z2 **OP**
Gsell, J. F. ..... Beacon bldg., Z2 **OALR**
Maggard, D. I. ..... Orpheum bldg., Z2 **OALR**
Marshall, Hal E. ..... 22 Colonial Court, Eastborough **ALR**
Reifsneider, J. Stanley ..... Beacon bldg., Z2 **ALR**
Seydell, E. M. ..... First Nat'l Bank bldg., Z2 **ALR**
Tippin, Ernest E. ..... First Nat'l Bank bldg., Z2 **ALR**
Weaver, T. W. ..... 201 N. Main, Z2 **OP**

WINFIELD
Gsell, George F., Major (M.C.) ..... 920 E. 10th av. **OP**
Ralls, C. T. ..... State Bank bldg. **OALR**

KENTUCKY

COVINGTON
Bledsoe, R. W. ..... First Nat'l Bank bldg. **OALR**

FRANKFORT
Snyder, William S., Jr. ..... 324 W. Main **ALR**

GLASGOW
Weldon, William A. ..... **OP**

HARLAN
Gunn, Milus L. ..... 107 E. Mound st. **ALR**

LEXINGTON
DeWeese, Clarence ..... 201 W. Second st., Z15 **OALR**
Frey, Walter D. ..... 200 N. Upper st., Z15 **OP**
Marks, Samuel Blackburn ..... 200 W. Second, Z15 **ALR**
Stern, Milton J. ..... First National Bank bldg., Z3 **OP**

LOUISVILLE
Baker, Melvin C. ..... Heyburn bldg., Z2 **OP**
Bass, A. L. ..... Heyburn bldg., Z2 **OALR**
Bloch Charles L. ..... 2532 Ransdell av. **OP**
Dean, Walter ..... 300 Francis bldg., Z2 **OALR**
Dulaney, Octavus ..... Brown bldg., Z2 **ALR**
Hall, G. C. ..... 139 Sagamore rd. Z7 **OALR**
Heitger, J. D. ..... Heyburn bldg., Z2 **OALR**
Hutcherson, John Kenneth ..... Francis bldg., Z2 **OP**
Leggett, Albert E. ..... 614 Fincastle bldg., Z2 **OP**
Moran, Charles T., Major (M.C.) ..... 1966 Deer Park **OP**
Pryor, Will R. ..... 415 Heyburn bldg. Z2 **OP**
Ray, George H. ..... 914 Francis bldg. **OP**
Townes, C. Dwight ..... 1014 Heyburn bldg. **OP**
Victor, Karl N.
1010 Brown bldg., 321 West Broadway, Z2 **ALR**

MADISONVILLE
Garnier, William Hampton ..... Doctors bldg. **ALR**
Salmon, David L., Major (M.C.) ..... Noel Ave. **ALR**

OWENSBORO
Woolfolk, William L. ..... 115 E. 4th st. **ALR**

PADUCAH
Abell, Harry Davis ..... 333 Broadway **OP**
Pace, Errett ..... City Savings Bank bldg. **ALR**
Reynolds, H. G. ..... 717 Citizens Savings Bank bldg. **OALR**

LOUISIANA

ALEXANDRIA

Simmonds, Noel T.....1404 Murray OP

BATON ROUGE

Jackson, Rufus.....Louisiana Nat'l Bank bldg., Z6 ALR
McLaurin, James Walter.....251 3rd, Z6 ALR
Marks, Paul L., Capt. (M.C.).....2135 Packer St. OP
Phillips, James R.....701 Winn av. OP

BARKSDALE FIELD

Jones, Emmett L., Jr., Major (M.C.)
Regional Station Hospital ALR

LAKE CHARLES

Moss, Olin W.....Weber bldg. ALR

NEW ORLEANS

Alexander, Lucian W.....Maison Blanche bldg., Z16 ALR
Bahn, Charles A. .....1028 Maison Blanche bldg., Z16 OP
Beil, Wallace C.....416 American Bank bldg. OP
Blum, Henry N.....American Bank bldg., Z12 OP
Boles, Wm. M.....4132 St. Charles Ave. Z15 OP
Brewster, H. F.....913 Richards bldg. ALR
Brown, Charles Lafayette.....713-15 Richards bldg. ALR
Buffington, Wiley R.....Hibernia Bank bldg., Z12 OP
Clark, William B.....American Bank bldg., Z12 OP
Cox, Charles L.....Pere Marquette bldg., Z12 ALR
Crebbin, Alexander R.....Maison Blanche bldg., Z16 OP
Farrior, J. Brown.....Ochsner Clinic ALR
Fuchs, Valentine Henry.....American Bank bldg., Z12 ALR
Gooch, John B.....Canal Bank bldg., Z12 ALR
Granberry, Carl.....Maison Blanche bldg., Z16 ALR
Haik, George M.....812 Maison Blanche bldg. OP
Hallaron John J., Capt. (M.C.)..3405 St. Charles av. ALR
Hanley, Jeanne C. Roeling....Maison Blanche bldg., Z16 ALR
Irwin, John Joseph.....Baronne bldg., Z12 ALR
Kearney, Harold Leslie.....1403 Delachaise, Z15 ALR
LeJeune, F. E.....Ochsner Clinic, Z15 ALR
Lynch, Mercer G., Major (M.C.)....2024 Audubon st. ALR
McComiskey, Arthur James.....3420 Prytania, Z15 ALR
Smith, Leslie M., Sr. Surgeon USPHS
U. S. Marine Hospital Z15 OP
Smith, Victor C.....American Bank bldg., Z12 OP
Taquino, George J.....Canal bldg., Z12 ALR
Wagner, W. A.....200 Carondelet, Z12 ALR
Walls, Edward G.....1212 Maison Blanche bldg. Z16 ALR
Weil, A. I.....3439 Prytania, Z15 ALR
Womack, David R.....1218 Maison Blanche bldg., Z 16 ALR
Wood, Spencer.....500 Verret, Z15 ALR

PINEVILLE

Ewing, Fayette C.....(Retired), "Nosegay,"

SHREVEPORT

LaRue, C. L.....Highland Clinic, Z50 OALR
Riggs, Ralph H., Comdr. (M.C.).....586 Oneonta St. ALR
Scales, J. L.....Medical Arts bldg., Z45 OALR
Wilkinson, Joel A.....1130 Louisiana av., Z7 OALR

MAINE

AUGUSTA

Provost, Pierre E., Lt. Comdr. (M.C.) USNR 48 Green St. ALR

BANGOR

Butler, Harry.....77 Broadway ALR
McQuoid, Robert Moffat.....39 Columbia ALR
Whitworth, John Ewing.....116 Hammond ALR

BATH

Kershner, W. E.....117 Front OALR

HOULTON

Hogan, Chester F.....62 Main st. ALR

LEWISTON

Chaffers, William H.....190 Bates ALR

PORTLAND

Beach, S. Judd.....704 Congress, Z4 OP
Cummings, George O.....47 Deering, Z4 ALR
Gordon, Charles H.....46 Deering, Z4 ALR
Haskell, Alfred W.....142 High, Z3 OP
Holt, E. E., Jr.....723 Congress, Z4 OP
Johnson, Henry P.....32 Deering, Z3 ALR
McAdams, R.....704 Congress, Z4 OP

WATERVILLE

Flanders, Merton, Capt. (M.C.).....43 Burleigh St. ALR
Hill, Frederick T.....Professional bldg. ALR
Hill, Howard F.....177 Main OP
Poulin, James E.....Professional bldg. ALR

MARYLAND

ANNAPOLIS

Welch, Robert S. G.....86 State Circle OALR
Wiser, Henry J., Capt. (M.C.)....503 Dream's Landing ALR

BAINBRIDGE

Wible, LeRoy E.....Comdr. (M.C.), U.S.N. Hosp. ALR

BALTIMORE

Bagley, Cecil Hopkins.....2 East Read, Z2 OP
Bodenheimer, Ernst.....1212 Eutaw Place, Z17 OP
Bordley, James Jr.....2630 Guilford av., Z18 OALR
Breitstein, M. Lewis.....1213 Eutaw Place, Z17 ALR
Clapp, C. A.....513 N. Charles st., Z1 OP
Dix, Harold C.....405 N. Charles st., Z1 OP
Fox, Samuel L.....1205 St. Paul st., Z2 ALR
Friedenwald, Harry.....1212 Eutaw pl., Z17 OP A
Friedenwald, J. S.....1212 Eutaw pl., Z17 OP
Goldback, L. J.....6 East Eager, Z2 OP
Goldberg, Herman K.....719 N. Charles st. OP
Guyton, Jack Smallwood.....John Hopkins Hospital, Z5 OP
Hantman, Irvin, Capt. (M.C.)
c/o Greenberg, 3647 Cottage av. ALR
Hughes, William F., Jr.....1916 McElderry st., Z5 OP
Kemler, Joseph I.....1908 Eutaw pl., Z17 OALR
Kleiman, Bernard S., Capt. (M.C.)...3318 Bancroft Rd. ALR
Kremen, Abraham.....2355 Eutaw Place, Z17 OP
Lieberman, Alfred T., Capt. (M.C.),
c/o E. J. Filtzer, Emersonian Apts. 4-C ALR
Looper, Edward Anderson.....104 W. Madison, Z1 OALR
McKenzie, William Raymond.....101 W. Read, Z1 ALR
MacLean, Augus L. ..... 1201 N. Calvert, Z12 OP
Maumenee, Alfred E.....Johns Hopkins Hospital, Z5 OP
Patterson, Robert U., Maj. Gen.
Office of the Dean, Schl. of Med., Univ. of Md., ALR
Proctor, Donald F.....6 E. Eager st., Z2 ALR
Randolph, M. Elliott, Lt. Col. (MC) 4302 Rugby Rd. Z10 OP
Raskin, Moses.....The Madison, 817 St. Paul st., Z2 OALR
Scholtz, Roy O.....1515 Pentridge rd. Z12 OP
Small, Mary L.....18 W. Read, Z1 OP
Snyder, Jerome, Capt. (M.C.).....11 E Chase St. ALR
Tarun, William.....2309 Kenoak rd., Z9 OP
Walsh, Frank B.....Johns Hopkins Hosp., Z5 OP
Woods, Alan C.....Johns Hopkins Hospital, Z5 OP
Zinn, Waitman Farnsworth..... Medical Arts bldg., Z1 ALR

MARYLAND—Continued

BETHESDA

Baker, Daniel Clifton, Jr., Lt. Comdr. (M.C.), U. S. Naval Hopital, Z14 **ALR**

Delaney, Adrian J., Capt. (M.C.), USN, Nat'l Naval Medical Center **ALR**

CHEVY CHASE

Rice, Carl E.....6500 Maple av., Z15 **OP**

FT. HOWARD

Bonner, Wm. F., Major (M.C.)..... **OALR**

FREDERICK

Brandfield, Ira Irvin, Capt. (M.C.).....305 W. 2nd St. **ALR**

HAGERSTOWN

Smith, W. Hamilton.....314 Wareham bldg. **ALR**

Smoot, Merrill C.....130 W. Washington st. **ALR**

SALISBURY

Gillis, Marion H. J.....204 Walnut st. **OP**

WESTERN PORT

Reeves, J. Norman.....121 Main st. **ALR**

MASSACHUSETTS

ARLINGTON

Carroll, Walter J. E.....5 Chestnut, Z74 **ALR**

BEVERLY

Senecal, Alphonse L.....1 Monument Square **ALR**

BOSTON

Allman, Charles H.....520 Commonwealth av. Z15 **ALR**

Burian, Hermann M.....520 Commonwealth av. Z15 **OP**

Carter, Albert A.....419 Boylston, Z16 **OP**

Chandler, Paul A.....5 Bay State rd., Z15 **OP**

Chenery, W. E.....377 Commonwealth av., Z15 **ALR**

Chisholm, Julian F., Jr., 20 W. Cedar, c/o Mrs. Bunting, Z8 **OP**

Cline, Samuel.....416 Marlboro, Z15 **ALR**

Cogan, David G.....243 Charles st. **OP**

Cowan, Clyde R.....69 Bay State rd., Back Bay, Z15 **ALR**

DeBlois, Elizabeth.....247 Commonwealth av., Z15 **ALR**

Donahue, Hugh C.....520 Commonwealth av., Z15 **OP**

Drooker, Joshua C.....20 Charlesgate West **ALR**

Easton, Mahlon T.....264 Beacon st., Z16 **OP**

Evans, Maurice George.....416 Marlboro, Z15 **ALR**

Fein, Harry.....483 Beacon st., Z15 **ALR**

Fineberg, Nathan L.....475 Commonwealth av., Z15 **ALR**

Frazee, John R.....311 Beacon st. **ALR**

Fred, Gustave B.....520 Beacon, Z15 **ALR**

Freedman, L. M.....475 Commonwealth av., Z15 **ALR**

Garland, Frederick E.....483 Beacon, Z15 **LR**

Gettes, Charles N.....481 Beacon st., Z15 **ALR**

Goodale, Robert L.....330 Dartmouth, Z16 **ALR**

Goodall, Edwin Baker.....71 Bay State rd., Z15 **OP**

Gorney, Arthur J.....416 Marlborough st. **ALR**

Gundersen, Trygve.....101 Bay State rd. **OP**

Haley, William Thomas.....531 Beacon, Z15 **ALR**

Holmes, Edgar M.....330 Dartmouth, Z16 **ALR**

Hoover, Walter Boyd.....605 Commonwealth av., Z15 **ALR**

Inglis, Harry J.....43 Bay State rd., Z15 **ALR**

Johns, Juanita Pearl.....313 Commonwealth av., Z15 **OP**

Johnson, Charles I.....403 Commonwealth av. **ALR**

Johnson, Leighton F.....29 Bay State rd., Z15 **ALR**

Kazanjian, V. H.....475 Commonwealth av., Z15 **LR-PI S**

Kelley, Vincent J.....520 Commonwealth av., Z15 **ALR**

Kleinert, Margaret N.....23 Bay State rd., Z15 **ALR**

Lancaster, W. B.....520 Commonwealth av., Z15 **OP**

Lentine, Joseph.....520 Commonwealth Ave. Z15 **ALR**

Lovesey, Burton E.....76 Bay State rd., Z15 **ALR**

Lurie, Moses H.....483 Beacon, Z15 **ALR**

Meltzer, Philip E.....20 Charlesgate West, Z15 **ALR**

Messenger, Harry K.....313 Commonwealth av., Z15 **OP**

Miller, Daniel.....20 Charlesgate West, Z15 **ALR**

Mills, Chester R.....520 Commonwealth av., Z15 **ALR**

Mueller, Werner.....412 Beacon, Z15 **ALR**

Poirier, George H.....60 Bay State rd., Z15 **ALR**

Quincy, J. E.....270 Commonwealth av., Z16 **ALR**

Regan, William F.....19 Bay State rd., Z15 **ALR**

Richardson, John R.....403 Commonwealth av., Z15 **ALR**

Rowland, W. D.....180 Commonwealth av., Z16 **OP**

Sachs, Benjamin.....520 Beacon, Z15 **OP**

Schall, LeRoy A.....243 Charles st., Z14 **ALR**

Skirball, J. J.....353 Commonwealth av., Z15 **OP**

Sloane, Albert E.....416 Marlborough, Z15 **OP**

Terry, Theodore L.....140 Marlborough, Z16 **OP**

Thompson, Peter H.....308 Commonwealth av., Z15 **OP**

Thorne, Fred S.....270 Commonwealth av., Z16 **OP**

Tingley, Louisa Paine.....416 Marlborough, Z15 **OP**

Tobey, George L., Jr.....403 Commonwealth av., Z15 **ALR**

Wells, David W.....31 Bay State rd., Z15 **OP**

Wilkins, Samuel Henry....270 Commonwealth av., Z16 **OP**

BRIGHTON

Cammisa, James J. Vincent, Comdr. (M.C.), USN, 44 Leamington rd., Z35 **OALR**

BROCKTON

Jones, Edward Earl.....141 West Elm, Z8 **ALR**

Nerbonne, Joseph J.....231 Main, Z1 **OALR**

BROOKLINE

Alpert, David R., Capt. (M.C.).....28 Verndale st. **OP**

Verhoeff, Frederick H.....61 Monmouth st. **OP**

CAMBRIDGE

Butler, Edmund John.....25 Garden st., Z38 **ALR**

Hewitt, Wright P.....51 Brattle st., Z38 **ALR**

CHARLESTOWN

Lewis, James P., Comdr. (M.C.), USNR, U. S. Navy Yard **ALR**

CHESTNUT HILL

Dunphy, Edwin B.....255 Woodland rd. **OP**

CLINTON

Monahan, J. A.....181 Chestnut **OALR**

O'Toole, Francis Austin.....181 Chestnut **ALR**

DORCHESTER

Riseman, Benjamin.....15 Maybrook st. **ALR**

FALL RIVER

Donovan, Richard J.....422 N. Main **OALR**

Ryder, D. R.....151 Rock **ALR**

FITCHBURG

Quinlan, Joseph D.....44 Prichard st. **ALR**

FORT DEVENS

Harris, Morris, Capt. (M.C.), 0-540855 Lovell General Hosp. South **OP**

Powers, John T. H., Major (M.C.), Lovell General Hosp. North **ALR**

MASSACHUSETTS — Continued

FRAMINGHAM
Bryan, James H., Lt. (M.C.), Cushing General Hospital OP
Dinan, Thomas Edward....132 Union av. ALR
Lewin, Michael, Major (M.C.), Cushing General Hosp. ALR-PLS
Salls, Frederick H. ....132 Union av. OP
Tomb, Everett H....46 Lexington ALR

GARDNER
Bone, Herman D....19 Pleasant OALR

GREENFIELD
Dame, L. R....9 Orchard st. OP
Millett, Frank A....40 High OALR

HAVERHILL
Birdsall, Clarence H....30 Sumner ALR
Capeles, T. F....191 Merrimack OALR
Kapp, Henry....50 Merrimack ALR
Shlossberg, Frank Ronald....116 Emerson ALR
Trull, Alfred C....8 Washington square OP

HOLYOKE
Abbot, Edward A....225 High st. ALR
Burke, John R....207 Elm OALR
Halton, Edward P....1456 Northampton st. ALR

LAWRENCE
Byrne, Harry V....301 Essex OP
Colson, Z. William....301 Essex st. OP

LOWELL
Berman, Philip G....174 Central OP
Leahey, Brendan D....9 Central OP
Leahey, George A....45 Merrimack OP

LYNN
Jones, E. W. .... 44 Atlanta OP A
McIntire, Frederic J....63 N. Common ALR
O'Reilly, W. F....44 S. Common OALR
Rafferty, George E....173 N. Common ALR

MALDEN
French, Robert Weller....181 Pleasant OP
Haire, Paul G....6 Pleasant, Z48 OP

MARBLEHEAD
Mosher, Harris P....127 Front ALR

MEDFORD
Haley, Paul J. D. ....333 Winthrop, Z55 ALR

MELROSE
DeWolf, Charles W....8 Porter ALR

NEWTON CENTER
Casten, Virgil G., Capt. (M.C.), USNR,
1038 Center st., Z59 OP

NORTHAMPTON
Collins, J. D....187 Main ALR
Dow, Frank E....4 West OP

PITTSFIELD
Porter, Byron H....18 Bank Row ALR
Thompson, G. H....74 North OALR

QUINCY
Gilmore, Robert O....1159 Hancock ALR
McClintock, Walter L., Capt. (M.C.), 120 Putnam st. ALR

SALEM
Adams, John G....24 Winter ALR
Hennessey, W. W....333 Essex OALR
Tolman, Henry....136 Federal ALR

SOMERVILLE
Solo, Adrian....174 Highland av. ALR

SOUTH BOSTON
Regan, James J., Lt. Comdr. (M.C.), 940 Broadway OP

SPRINGFIELD
Boss, Eugene George....1537 Main, Z3 OALR
Byrnes, Harry F....67 Chestnut, Z5 OALR
Dineen, John B....1537 Main st. ALR
Gaudreau, Honore E....293 Bridge, Z3 OP
Goodell, William....121 Chestnut, Z3 ALR
Irwin, Vincent J., Jr....1634 Main, Z3 OALR
Mahoney, Frank A., Jr....293 Bridge St. ALR
Segal, Samuel, Jr....117 Daviston st. ALR

WALTHAM
Mackenzie, Roland C....30 Grant, Z54 OP

WELLESLEY HILLS
Richards, Lyman G....15 Whiting Road ALR

W. SOMERVILLE
Jellis, Walter, Comdr. (M.C.), USNR, 71 College av. ALR

WINTHROP
Hurd, Allan C., Comdr. (M.C.), USNR,
831 Shirley st., Z52 ALR

WORCESTER
Berry, Gordon....36 Pleasant, Z8 ALR
Caron, Armand L....36 Pleasant, Z8 ALR
Croissant, Charles A....390 Main, Z8 ALR
Cross, A. E....390 Main, Z8 OP
Gibby, Harold James....27 Elm, Z8 ALR
Goodspeed, Harry B....36 Pleasant, Z8 ALR
Holzer, William F....36 Pleasant, Z8 OP
Messier, A. Eugene....390 Main, Z8 OALR
Murphy, William E....390 Main, Z8 ALR
Rice, John E....390 Main, Z8 OALR
Tegelberg, Julius J.
Lt. Comdr. (M.C.), 12 Monterey rd., Z6 ALR
Whitney, Percy T....390 Main, Z8 OP
Yasuna, Elton R....44 Pearl St. OP

MICHIGAN

ANN ARBOR
Armstrong, Richard C., Capt. (M.C.),
Ophthalmology Clinic, University Hosp. OP
Barr, Albert S....First Nat'l Bank bldg. OP
Falls, Harold Francis....University Hospital OP
Fralick, F. Bruce....First Nat'l Bank bldg. OP
Furstenberg, A. C....First Nat'l Bank bldg. ALR
Maxwell, James H....First Nat'l Bank bldg. ALR
Teed, R. Wallace, Comdr. (M.C.)....410 Highland rd. ALR

MICHIGAN — Continued

BATTLE CREEK

Barkhorn, Charles W., Lt. Col. (M.C.), Percy Jones General Hospital **ALR**
Dodge, W. M., Jr.....1207 Central National Bank **OP**
Fraser, R. H.....25 W. Michigan av. **ALR**
Haughey, Wilfrid H.....Post bldg. **OALR**
Wencke, Carl G.....1015 Security Tower **ALR**

BAY CITY

Criswell, Robert Harold.....Phoenix bldg. **OP**
Kessler, Mana.....311 Center av. **ALR**
Sherman, R. Newton.....Phoenix bldg. **OALR**

BENTON HARBOR

Cawthorne, Harold Jesse.....239 Pipestone **ALR**
Westervelt, H. O.....239 Pipestone **ALR**

BIRMINGHAM

Ferris, Ralph G.....55 W. Maple av. **ALR**

COLDWATER

Thomas, James Alanson, Southern Michigan Bank bldg **ALR**

DETROIT

Amberg, Emil.....1244 W. Boston blvd., Z2 **ALR**
Barnett, Saul E.....10 Peterboro **ALR**
Beattie, Robert.....David Whitney bldg., Z26 **OALR**
Begle, Howell L.....2730 E. Jefferson av. Z7 **OP**
Bentley, Neil I.....David Whitney bldg., Z26 **OALR**
Brown, Audrey O.....5057 Woodward av., Z2 **OALR**
Brunk, Clifford F.....7815 E. Jefferson av., Z14 **ALR**
Campbell, Duncan A.....David Whitney bldg., Z26 **OALR**
Carter, John M.....David Whitney bldg., Z26 **ALR**
Carter, Leland F.....David Whitney bldg., Z26 **OP**
Clarke, George L.....910 Chalmers, Z15 **ALR**
Clifford, T. P.....David Whitney bldg., Z26 **OALR**
Cohoe, Don A.....13535 Woodward av., Z3 **ALR**
Cooper, Edmond L.....414 David Whitney bldg., Z26 **OP**
Croll, Leo J., Major (M.C.).....18605 Fairfield **OALR**
Crossen, Henry F.....David Whitney bldg., Z26 **ALR**
Croushore, James E.....573 Fisher bldg., Z2 **ALR**
Cusick, Paul L.....1108 Stroh Bldg. Z26 **OP**
Davies, Windsor S...1302 Stroh Bldg., 28 W. Adams Ave. **OP**
Defnet, William A.....28 Adams av., West, Z26 **ALR**
Dill, J. Lewis.....Henry Ford Hospital, Z2 **ALR**
Dunlap, Henry Arthur.....7815 E. Jefferson av., Z14 **OP**
Gemeroy, Joseph C.....664 Fisher bldg., Z2 **OP**
Gleason, John E.....David Whitney bldg., Z26 **ALR**
Glowacki, Ben Francis.....Maccabee bldg., Z2 **OALR**
Gonne, William S.....David Whitney bldg., Z26 **ALR**
Goux, Raymond Salot.....David Whitney bldg., Z26 **OALR**
Hale, Arthur Stanley.....Eaton Tower, Z26 **OALR**
Hammond, Arthur.....David Whitney bldg., Z26 **ALR**
Harrell, Voss.....Hofman bldg, Z1 **ALR**
Hartgraves, Hallie.....28 West Adams av., Z26 **OP**
Hauser, I. Jerome...2311 David Broderick Tower, Z26 **ALR**
Heath, Parker.....David Whitney bldg., Z26 **OP**
Joinville, Euclide V.....Stroh bldg., Z26 **ALR**
Keating, T. F.....Maccabee bldg., Z2 **OALR**
Lamberson, Frank Abrom.....19600 Grand River, Z23 **ALR**
Lauppe, Frederick A....1801 David Whitney bldg., Z26 **OP**
Lepard, Cecil W.....David Whitney bldg., Z26 **OP**
McCullough, Lester E.....1553 Woodward av., Z26 **OP**
MacFarlane, Howard W.....David Whitney bldg., Z26 **ALR**
Mercer, R. E.....126 Monterey, Z3 **LR**
Mond, Edward .....Eaton Tower, Z26 **ALR**
Morton, J. B.....90 E. Warren av., Z1 **OALR**
Munson, F. T.....2201 E. Jefferson av., Z7 **ALR**
O'Hora, James Timothy .....571 Fisher bldg., Z2 **ALR**
Parker, Walter R.....David Whitney bldg., Z26 **OP**
Peirce, Howard W.....5181 Van Dyke av., Z13 **ALR**
Pino, Ralph H.....David Whitney bldg., Z26 **OP**
Pittman, John E.....David Whitney bldg., Z26 **OP**
Poos, E. E.....Fisher bldg., Z2 **OALR**
Potter, Willis A.....7450 Grand River av., Z4 **ALR**
Proctor, Bruce.....1419 David Whitney bldg., Z26 **ALR**
Robb, James Milton.....David Whitney bldg., Z26 **ALR**
Rubright, LeRoy W.....604 Atkinson Ave. Z2 **ALR**
Ryerson, F. L.....Fine Arts bldg., Z26 **OALR**
Scarney, Herman D., Capt. (M.C.) USNR 573 Fisher Bldg. Z2 **OP**
Shurly, Burt R.....62 Adams av. West, Z26 **ALR**
Simpson, H. Lee.....David Whitney bldg., Z26 **ALR**
Summers, William S.....David Whitney bldg., Z26 **OALR**
Sutherland, Jacob Marion.....Fisher bldg., Z2 **ALR**
Vossler, Albert E.....David Whitney bldg., Z26 **OALR**
Weaver, Delmar Franklin.....Henry Ford Hospital, Z2 **ALR**
Wendel, J. S.....David Whitney bldg., Z26 **ALR**
Whitney, E. L.....Henry Ford Hospital, Z2 **OP**
Wilkinson, A. P. .....3001 W. Grand blvd., Z2 **OALR**
Woodry, Norman Lee, 1501 David Whitney bldg., Z26 **ALR**
Woodworth, William P.....2501 W. Grand blvd., Z8 **OALR**

FENTON

White, Carl Harper.....106 Riner st. **OALR**

FLINT

Hubbard, Wm. B.....302 Paterson bldg., Z3 **OALR**
Smith, Eugene C.....814 Mott Foundation bldg., Z3 **OALR**
Stevenson, William W.....Kresge bldg., Z3 **OALR**
White, Herbert T.....National bldg., Z3 **OP**

GRAND RAPIDS

Dean, Alfred .....Medical Arts bldg., Z2 **OP**
Dewar, Murray M.....Medical Arts bldg., Z2 **OP**
Doran, Frank.....Metz bldg., Z2 **ALR**
Flynn, J. Donald.....Ashton bldg. **ALR**
Gilbert, Ralph H.....Metz bldg., Z2 **OP**
Heetderks, D. R.....Medical Arts bldg., Z2 **ALR**
Laird, Robert G.....114 E. Fulton st., Z2 **OP**
McRae, J. H.....Medical Arts bldg., Z2 **OP**
Moll, Arthur M.....Powers Theatre bldg., Z2 **ALR**
Smith, Ferris.....Blodgett Medical bldg., Z6 **ALR-PLS**
Steffensen, W. H., Blodgett Medical bldg., Wealthy St., Plymouth rd., Z6 **ALR-PLS**

GROSSE POINT

Beam, A. Duane, Comdr. (M.C.).....406 Lincoln rd. **OP**
Lathrop, Frank D., Maj. (M.C.)....262 Vendome, Z30 **ALR**
Merkel, Charles C.....85 Kercheval av., Z30 **ALR**

HOLLAND

DeVries, Harold G.....36 East 8th **ALR**
Snydacker, Daniel.....588 Lawndale st. **OP**

IONIA

Sedgwick, O. W. ..... **OALR**

IRON MOUNTAIN

Boyce, G. H.....First Nat'l Bank bldg. **OALR**
Menzies, Clifford G.....733 Woodward av. **ALR**

MICHIGAN—Continued

JACKSON
Hardie, George C.....290 W. Michigan av. OALR
McGarvey, William Edward....Jackson City Bank bldg. OALR
Newton, Ray E.....1010 Reynolds bldg. OP
Winter, George E.....117 W. Michigan av. OALR

KALAMAZOO
Dyer, Benjamin G.....2903 Lovell st., Z27 ALR
Fast, Ralph B.....136 E. Michigan av., Z4 ALR
Fulkerson, C. B.....107 W. Michigan av., Z9 OALR
Grant, Fred E.....Kalamazoo Nat'l Bank bldg., Z9 OALR
Marshall, Don.....1410 American Bank bldg., Z4 OP
Wilbur, Edward P.....American Nat'l Bank bldg., Z4 OALR

LANSING
Behen, William C.....535 S. Capitol av., Z15 ALR
Burdick, Austin F.....P. O. Drawer 1378, Z4 OALR
Ellis, C. Ward.....1702 Sunnyside ALR
Heckert, Frank B.....1105 Bank of Lansing bldg. OP
McGillicuddy, O. B.....1908 Olds Tower bldg. ALR
Wetzel, John O.....Olds Tower bldg., Z8 OP

MARQUETTE
Hornbogen, Daniel Powell.....401 Savings Bank bldg. OP
Keskey, George I.....Rose bldg. ALR

MENOMINEE
Jones, William S.....521 Sheridan road OALR

MIDLAND
Pike, Melvin H.....Reinhart bldg. OALR

MONROE
Williams, Robert J.....118 E. First st. ALR

MT. CLEMENS
Croman, Joseph M., Jr.....115 Cass av. OALR

MT. PLEASANT
Strange, Russell H.....117 S. College av. ALR

MUSKEGON
Loder, L. L...506 Hackley Union Nat'l Bank bldg., Z11 OP
Mandeville, Clifford Bagley.....Hackley Union Bank ALR

NILES
Moore, Thomas Scott.....107 N. 2nd OP

OWOSSO
Pochert, Rolland C.....Matthews bldg. OALR

PONTIAC
Baker, Frederick A.....1102-3 Peoples State bldg. OP
Larson, Bertil T.....Riker bldg., Z15 ALR
Riker, Aaron D.....Riker bldg., Z15 OP

ST. JOSEPH
McDermott, John J.....505 Pleasant st. OALR

SAGINAW
Cady, F. J.....402 S. Jefferson av. OALR
Cortopassi, Andre J.....324 S. Washington av. ALR
Cortopassi, Vital E.....324 S. Washington av. ALR
Gomon, Louis D.....Eddy bldg. OP
Howell, Donald M.....Wiechmann bldg. ALR
McKinney, A. R.....330 S. Washington av. OALR
Richter, Harry Joseph.....604 2nd Nat'l Bank bldg. ALR
Slack, Walter K.....308 Eddy bldg., Z3 ALR
Tiedke, Gunther E.....120 N. Michigan av. OP

SOUTH HAVEN
Urist, Martin J.....Center & Phoenix sts. OP

TRAVERSE CITY
Beall, John G.....118½ E. Front st. OP

MINNESOTA

ALBERT LEA
Folken, Frank Garrett.....201 S. Broadway OALR

BEMIDJI
Garlock, Arthur Varney.....217½ 3rd OP

BUFFALO
Crawford, James H., Capt. (M.C.), c/o E. T. Schmidt OP

CROOKSTON
Morley, George A.....P. O. Box 452 OP
Oppegaard, C. L.....220 S. Broadway ALR
Parsons, J. G.....Crookston Clinic OALR

DULUTH
Armstrong, E. Leslie.....Medical Arts bldg., Z2 ALR
Athens, Alvin G.....Medical Arts bldg., Z2 OP
Fellows, M. Fording.....1209 Medical Arts bldg. OP
Hilding, Anderson C.....Medical Arts bldg., Z2 OALR
Knapp, F. N.....Medical Arts bldg., Z2 OP
Olson, Archie.....Medical Arts bldg., Z2 OP
Patch, Orien B., Major (M.C.).....205 W. 2nd St. ALR
Shastid, T. H.....202 W. Superior., Z2 OP
Tilderquist, D. L.....Medical Arts bldg., Z2 OALR
Winter, John A.....205 W. 2nd, Z2 OALR

FERGUS FALLS
Combacker, Leon C.....101½ Lincoln av. W. OP

HIBBING
Morsman, L. W.....Morsman Clinic OP
Sinamark, Andrew.....Power bldg. OALR

MINNEAPOLIS
Boies, Lawrence R.....Medical Arts bldg., Z2 ALR
Borgeson, E. J.....Medical Arts bldg., Z2 OP
Cabot, Clyde M., Major (M.C.), 0-552886, 5629 12th av. S. ALR
Camp, Walter E.....Medical Arts bldg., Z2 OALR
Clark, H. S.....2615 Park av., Z7 OALR
Dahl, Elmer O.....Medical Arts bldg., Z2 ALR
Dorge, Richard Irving.....1111 Nicollet av., Z2 OALR
Fink, Leo W.....Medical Arts bldg., Z2 ALR
Fink, Walter H.....Medical Arts bldg., Z2 OP
Garten, Joseph L.....502 Medical Arts bldg. OALR
Hansen, Erling W.....Medical Arts bldg., Z2 OP
Haven, Walter K.....1009 Nicollet av., Z2 OALR
Hoffman, Walter Lees.....Medical Arts bldg., Z2 OP
Howard, William H.....3949 Portland av., Z7 OALR
Hymes, Charles.....Medical Arts bldg., Z2 OP
Jerome, Bourne.....4123 Wentworth av. S. OP
Johnson, Malcolm R.....645 Medical Arts bldg., Z2 ALR
Koller, Hermann M.....Medical Arts bldg., Z2 OP

MINNESOTA — Continued

Lindberg, Vernon L.....Physicians & Surgeons bldg. OP
Litchfield, J. T.....Medical Arts bldg., Z2 OALR
Loomis, E. A.....Medical Arts bldg., Z2 OALR
McGeary, George E.....Medical Arts bldg., Z2 ALR
Macnie, J. S.....Medical Arts bldg., Z2 OALR
Matthews, Justus.....Medical Arts bldg., Z2 LR
Oberg, Carl M.....300 Physicians & Surg. bldg., Z2 OALR
Patterson, W. E.....Medical Arts bldg., Z2 OALR
Pfunder, Malcom C.....Medical Arts bldg., Z2 ALR
Phelps, Kenneth A.....Medical Arts bldg., Z2 OALR
Pratt, Fred J.....Physicians and Surgeons bldg., Z2 OALR
Priest, Robert E.....2100 James av. ALR
Ricketts, Floyd B.....Veterans Hospital, Z6 ALR
Sandt Karl E.....1750 Medical Arts bldg., Z2 OP
Schwartz, Virgil Joseph.....Medical Arts bldg., Z2 ALR
Stanford, Charles E.....Medical Arts bldg., Z2 OP
Strout, G. Elmer.....1009 Nicollet av., Z2 OALR
Tangen, George M.,
2640 Glenhurst av., St. Louis Park, Z16 ALR

NEW ULM
Fritsche, Theodore R.....Fritsche bldg. OALR
Reineke, George F.....Fritsche bldg. OALR

RED WING
Brusegard, James F.....414 Main OP

ROCHESTER
Bair, Hugo L.....Mayo Clinic OP
Benedict, William L.....Mayo Clinic OP
Brown, Henry A.....937 Sixth av. S. E. ALR
Erich, John B.....Mayo Clinic PI S
Figi, Frederick A.....Mayo Clinic LR-PI S
Hallberg, Olav Erik.....Mayo Clinic ALR
Havens, Fred Z.....Mayo Clinic ALR-PI S
Hempstead, Bert E.....Mayo Clinic ALR
Lillie, Harold I.....Mayo Clinic ALR
McBean, James Blish.....302 Seventh av. S. W. ALR
New, Gordon B.....Mayo Clinic L-PI S
Prangen, Avery de H.....Mayo Clinic OP
Rucker, C. W.....Mayo Clinic OP
Wagener, Henry P.....Mayo Clinic OP
Williams, Henry Lane.....Mayo Clinic ALR

ST. CLOUD
Gaida, Joseph Benedict.....St. Mary's bldg. OP
Wenner, W. T.....St. Mary's bldg. OP

ST. PAUL
Binger, H. E.....Lowry Medical bldg., Z2 OALR
Boeckmann, Egil.....Lowry Med. bldg., Z2 OALR
Brown, John C.....Medical Arts bldg., Z2 OALR
Burch, Frank E.....754 Linwood Place, Z5 OP
Connor, Charles E.....Lowry Medical bldg., Z2 ALR
Edwards, Thomas J.....1237 Lowry Medical bldg., Z2 OP
Fogarty, Charles W.....372 St. Peter, Z2 OALR
Grant, H. W.....Lowry Medical bldg., Z2 OP
Hochfilzer, John J.....Lowry Medical bldg., Z2 ALR
Holmen, Robert W.....662 Lowry Med. Arts bldg., Z2 ALR
Kennedy, William A.....372 St. Peter st., Z2 OP
Larsen, Carl L.....Lowry Medical bldg., Z2 OALR
Leavenworth, R. O.....Lowry Medical bldg., Z2 OP
Nelson, Louis A.....Lowry Medical bldg., Z2 OP
O'Reilley, Bernard E.....585 S. Cleveland av., Z5 OP
Simons, Leander T...1039 Lowry Medical Arts bldg., Z2 OP
Rothschild, Harold J.....Lowry Medical bldg., Z2 OALR
Tracht, Robert R.....Lowry Medical bldg., Z2 OP
Wheeler, Merritt W.....Lowry Medical bldg., Z2 OALR
Wold, K. C.....Lowry Medical bldg., Z2 OALR

WINONA
Loomis, George L.....310 Choate bldg. ALR

WORTHINGTON
Stanley, C. R.....508 Tenth ALR

MISSISSIPPI

CAMP SHELBY
Sarnoff, Jack, Capt. (M.C.).....Regional Hospital ALR
Weinman, Edward B., Capt. (M.C.).....Regional Hosp. OP

CLARKSDALE
Wilkins, Ellis LeRoy.....McWilliams bldg. ALR

CORINTH
Hamrick, DeWitt.....601 Jackson ALR

GREENVILLE
Montgomery, D. Cameron.....Weinberg bldg. ALR

GREENWOOD
Pegues, James Cary.....301 Howard st. ALR

GRENADA
Caruthers, Samuel Brooks.....Grenada Clinic OALR

GULFPORT
McWilliams, Charles A.....1300 27th av. ALR
Rouse, H. K., Jr.....McWilliams Clinic, Box 174 OP

JACKSON
Adkins, George E.....Jackson Infirmary, Z27 ALR
Anderson, Ross Epting.....Standard Life bldg., Z27 ALR
Hagaman, Van Dyke.....Lamar Life bldg., Z2 ALR
Harris, Robin.....964 N. State, Z6 ALR
Hughes, William Lauch.....Lamar Life bldg., Z2 ALR
McNair, Stirling S., Comdr. (M.C.) ....Rt. 3, Box 111 OP

KEESLER FIELD
McAlpine, P. T., Capt. (M.C.).....Station Hospital OP
Ross, Percy J., Lt. Col (M.C.)..... ALR

McCOMB
Cotten, Willis Frank.....202 State st. ALR

NATCHEZ
Gaudet, Lucien S.....405 Franklin OALR

OXFORD
Guyton, B. S.....512 Van Buren av. OALR

VICKSBURG
Edwards, C. J.....First Nat'l Bank bldg. OALR
Hall, Donald S., Capt. (M.C.),
The Street Clinic Library, Crawford and Monroe sts. OALR
Jones, Edley H.....1301 Washington OALR

MISSOURI

CAPE GIRARDEAU

Tygett, Glenn J. .....215 N. Sprigg ALR

CARTHAGE

Powers, Everett.....305 S. Main OALR

CLAYTON

Votaw, Robert E.....10 Warson Terrace, Z5 ALR

COLUMBIA

Bruner, Claude R.....Exchange Nat'l Bank bldg. OALR
Sneed, Carl M.....4 N. 8th st. OALR

HANNIBAL

Hornback, George A.....500 Broadway ALR

INDEPENDENCE

Green, Stanley L.....129 W. Lexington OP

JEFFERSON CITY

Stauffer, Harry B.....234 Madison ALR

JOPLIN

Post, Winfred L.....804 Frisco bldg. OALR

KANSAS CITY

Allen, Charles E.....Waldheim bldg., Z6 OALR
Altringer, A. N.....Professional bldg., Z6 ALR
Baer, Alvin J.....1404 Bryant bldg., Z6 OP
Beal, Homer A.....1000 Professional bldg. ALR
Beil, J. Wallace.....Bryant bldg., Z6 OALR
Black, W. Byron.....Professional bldg., Z6 ALR
Bower, Richard L.....1103 Grand av., Z6 OALR
Connell, Evan Shelby.....Commerce bldg., Z6 OP
Curdy, R. J.....1102 Grand av., Z6 OP
Curran, Desmond.....1805 Federal Reserve bldg. OP
Curran, E. J.....Federal Reserve Bank bldg., Z6 OP
Curran, Kevin.....Federal Reserve Bank bldg., Z6 OP
Dixon, O. Jason.....Professional bldg., Z6 ALR
Eubank, Ambrose E.....Bryant bldg., Z6 OALR
Foster, Hal, (Retired), Brookside Hotel, 54th and Brookside blvd., Z2 ALR
Gilliland, O. S.....Professional bldg., Z6 ALR
Howard, J. W.....(Retired), Residence 6026 McGee, Z2 OALR
Howard, John C. Jr.....1408 Professional bldg. ALR
Keith, W. E.....Professional bldg., Z6 OALR
Lemoine, A. N.....Rialto bldg., Z6 OP
Lux, Paul.....Bryant bldg., Z6 ALR
McAlester, Andrew W., Jr.....Bryant bldg., Z6 OP
McKee, Joseph W.....Professional bldg., Z6 OP
May, James W.....626 Lathrop bldg., Z6 OP
Miller, Hugh.....Argyle bldg., Z6 OALR
Myers, John L.....Shukert bldg., Z6 OALR
Roberts, S. E.....Professional bldg., Z6 ALR
Shoemaker, Ferdinand.....3232 Harrison, Z3 OALR
Simpson, M. B.....Professional bldg., Z6 ALR
Teall, Raymond E.....Professional bldg., Z6 ALR
Thomason, H. E.....Professional bldg., Z6 ALR
Yazel, Herman E.....Rialto bldg., Z6 OALR

KENNETT

Linton, Clair S.....c/o Cottonseed Delinting Corp. ALR

ST. JOSEPH

Minton, William H.....Corby bldg., Z9 OALR

ST. LOUIS

Alden, Arthur M.....Frisco bldg., Z1 ALR
Alvis, Bennett Y.....900 Carleton bldg., Z1 OP
Alvis, Edmund B.....308 N. 6th st., Z1 OP
Arbuckle, Millard F., Col. (M.C.), 7118 Washington, Z5 ALR
Bardenheier, F. G. A.....Frisco bldg., Z1 ALR
Beisbarth, Carl.....3720 Washington blvd., Z8 OP
Bisno, Daniel.....4500 Olive st., Z8 OP
Black, W. D.....Metropolitan bldg., Z3 ALR
Boemer, L. C.....3720 Washington blvd., Z8 ALR
Brown, Clyde O.....3720 Washington blvd., Z8 ALR
Bryan, William T. K.....3720 Washington blvd., Z8 ALR
Burns, S. S.....Missouri Theatre bldg., Z3 ALR
Charles, Joseph W.....Humboldt bldg., Z3 OP
Cone, Alfred J.....453 N. Taylor, Z8 ALR
Costen, J. B.....Beaumont Medical bldg., Z8 ALR
Cutler, Harold M.....640 S. Kingshighway, Z10 ALR
Dean, Lee W., Jr.....3720 Washington blvd., Z8 ALR
Dobbs, Otto Ross Comdr. (M.C.), 9927 Riverview drive, Z15 ALR
Drews, Leslie C.....516 Metropolitan bldg., Z3 OP
Dyer, C. P.....R. 307-508 N. Grand blvd., Z3 OP
Eber, Carl Theodore.....Carleton bldg., Z1 OP
Eimer, C. E.....462 N. Taylor av., Z8 ALR
Elz, Jule Theodore.....3606 Gravois blvd., Z16 OP
Fineberg, Maxwell.....607 North Grand blvd., Z3 ALR
Freimuth, L. E.....University Club bldg., Z3 ALR
Gissy, C. J.....717 Metropolitan bldg., Z3 OP
Glick, Harry N.....3115 S. Grand blvd., Z18 ALR
Green, John.....3720 Washington blvd., Z8 OP
Greene, Maurice L.....501 Missouri Theatre bldg., Z3 OP
Gundelach, C. A.....University Club bldg., Z3 ALR
Hansel, French Keller.....634 N. Grand av., Z3 ALR
Hanser, Samuel Albert.....3424 Longfellow blvd., Z4 OP
Hardesty, J. F.....Missouri Theatre bldg., Z3 OP
Hardy, Guerdan, Comdr. (M.C.), 7460 Stratford av., Z5 OALR
Hardy, W. F.....Humboldt bldg., Z3 OP
Hildreth, H. Rommel.....Metropolitan bldg., Z3 OP
Hobart, Carl.....Metropolitan bldg., Z3 OP
Hooss, C. H. A.....2333 S. Grand blvd., Z4 OP
Howard, Harvey J.....Park Plaza Hotel, Z8 OP
James, William M.....508 N. Grand av., Z3 OP
Jones, Vincent L.....Missouri Theatre bldg., Z3 OALR
Kelley, Isaac D., Jr.....1226 Olive st. Z3 ALR
Kennedy, Francis L. .....Missouri Theatre bldg., Z3 ALR
Lange, Adolph Charles.....3903 Olive, Z8 OP
Leavy, C. A.....Metropolitan bldg., Z3 ALR
Luedde, W. H.....Metropolitan bldg., Z3 OP
Lyman, Harry W.....308 N. 6th, Z1 ALR
McMahon, Bernard John....Missouri Theatre bldg., Z3 ALR
Mason, Roy E.....Frisco bldg., Z1 OP
Mattis, Robert Dean.....375 N. Taylor av.,Z8 OP
Mayer, Leo L.....634 N. Grand av., Z3 OP
Meinberg, William H.....906 Olive, Z1 OP
Miller, H. Edward.....634 N. Grand blvd., Z3 ALR
Milligan, Roy H.....607 N. Grand blvd., Room 205 ALR
Morman, William Daniel.....3507 Franklin av., Z6 ALR
Myers, E. Lee.....3903 Olive st., Z8 ALR
Nemours, Paul Roland.....1506 Hodiamont av., Z12 ALR
Payne, R. J.....University Club bldg., Z3 ALR
Pelz, Mort D.....Metropolitan Bldg. ALR
Post, Lawrence T.....Metropolitan bldg., Z3 OP
Post, M. Hayward.....Metropolitan bldg., Z3 OP
Potter, Allen B.....Pasteur Medical bldg., Z8 ALR
Presnell, C. A.....634 N. Grand av., Z3 ALR
Proetz, A. W.....Beaumont bldg., Z8 ALR

MISSOURI — Continued

Reim, Hugo.....Metropolitan bldg., Z3 **OP**
Ryan, L. M.....Wall bldg., Z8 **ALR**
St. John, Dewey.....Metropolitan bldg., Z3 **ALR**
Sanders, Theodore E.....Metropolitan bldg., Z3 **OP**
Sauer, W. E.....Beaumont Medical bldg., Z8 **ALR**
Scholz, R. P.....Metropolitan bldg., Z3 **ALR**
Schwartz, Frederick O.....508 N. Grand blvd., Z3 **OP**
Scobee, Richard G.....640 S. Kingshighway, Z10 **OP**
Senturia, Ben H.....6355 Waterman **ALR**
Shahan, W. E.....Metropolitan bldg., Z3 **OP**
Smit, William M.....5285 Washington blvd., Z8 **ALR**
Stutsman, Albert C.....539 N. Grand blvd., Z3 **ALR**
Tooker, C. W.....Carleton bldg., Z1 **OP**
Walsh, Theodore E.....640 S. Kingshighway blvd., Z10 **ALR**
Webb, M. A.....4500 Olive st., Z8 **ALR**
Westlake, Samuel B.....Beaumont Medical bldg., Z8 **ALR**
Woodruff, Frederick E.....Metropolitan bldg., Z3 **OP**

SEDALIA

Brady, Charles Henry.....205 Ilgenfritz bldg. **ALR**

SPRINGFIELD

Bailey, Harold.....Landers bldg. **OALR**
Burch, Edward P., Col. (M.C.)..O'Reilly General Hosp. **OP**
Cheek, Carey.....Medical Arts bldg. **OP**
Downing, Arthur H., Capt. (M.C.)..O'Reilly Gen. Hosp. **OP**
Klingner, Thomas O.....Medical Arts bldg. **OALR**
Sherman, Arthur E., Capt. (M.C.), O'Reilly Gen. Hosp. **OP-PLS**
Smith, Carlie Souter.....Holland bldg. **OALR**
Williams, John W.....642-660 Med. Arts bldg. **ALR**
Wynn, Sidney K., Capt. (M.C.)...O'Reilly Gen. Hosp. **ALR**

TRENTON

Ambrose, Elmer C.....910 Main **OALR**

UNIVERSITY CITY

Rosenbaum, Harry D.....7310 Cornell, Z5 **OP**
Schluer, Elmer P., Major (M.C.), 7317 Stanford av., Z5 **ALR**
Wood, V. Visscher.....6368 Washington, Z5 **ALR**

MONTANA

ANACONDA

Dunlap, Lawrence G.....101 Main **OALR**

BILLINGS

Moriedge, Roy V.....Hart-Albin bldg. **ALR**
Morrison, Wm. R.....Hart-Albin bldg. **OALR**

GREAT FALLS

Hurd, Fritz D.....Medical Arts bldg. **ALR**

KALISPELL

Huggins, Harrison D.....12 Whipps bldg. **ALR**

MILES CITY

Rowen, Ernest Henry.....Box 570 **ALR**

MISSOULA

Marshall, William J.....Montana block **ALR**
Murphy, Edward S.....309 Eddy av. **OP**

ROUNDUP

Lewis, George A.....213 Main **OALR**

NEBRASKA

BLAIR

Reeh, Merrill J.....207 W. Colfax St. **OP**

COLUMBUS

Campbell, C. H.....2514½ Thirteenth **OALR**
Koebbe, E. E.....**ALR**

FREMONT

Heine, Lyman H.....635 N. Main **ALR**
Heine, William Howard.....Odd Fellow bldg. **ALR**

GRAND ISLAND

Baum, William W., Lt. Col. (M.C.), 0-279529, AAF Station Hosp. **OALR**
Martin, Roy David.....Masonic bldg. **ALR**

HASTINGS

Foote, Charles M.....412 N. Hastings av. **OP**

KEARNEY

Hart, Noah Leon
Capt. (M.C.), 0-460831 Station Hospital, AAF **ALR**

LINCOLN

Black, Paul.....Stuart bldg., Z8 **OALR**
Brooks, Earl B.....128 North 13th st., Z8 **OALR**
Hompes, J. J.....Sharp bldg., Z8 **OALR**
Peterson, John C.....702 Sharp bldg. **OP**
Sanderson, David D.....Stuart bldg., Z8 **OALR**
Thomas, James W.....Sharp bldg., Z8 **OALR**
Zemer, S. G.....Stuart bldg., Z8 **OALR**

NEBRASKA CITY

Stonecypher, D. D.....102½ S. 9th st. **ALR**

OMAHA

Alliband, George Thomas.....1020 Medical Arts bldg. **OP**
Bushman, L. B.....City National Bank bldg., Z2 **OALR**
Cassidy, W. A.....Medical Arts bldg., Z2 **ALR**
Cecha, Albin H.....4437 Woolworth av., Z5 **OP**
Coakley, Leo P.....Medical Arts bldg., Z2 **ALR**
Davis, John Calvin, Jr.....425 Aquila court, Z2 **OALR**
Faier, Samuel Z.....120 So. 36th St. **OALR**
Gifford, Harold.....Medical Arts bldg., Z2 **OP**
Greenburg, Maynard M.....516 Medical Arts bldg., Z2 **OP**
Hahn, William N.....City Nat'l Bank bldg., Z2 **OP**
Haney, William P.....Medical Arts bldg., Z2 **OALR**
Judd, J. H.....Medical Arts bldg., Z2 **OP**
Kully, Herman E.....Medical Arts bldg., Z2 **ALR**
Maiden, Sydner D.....446 Aquila Court, Z2 **OALR**
Morrison, Wm. Howard.....Medical Arts bldg., Z2 **OP**
Potts, J. B.....3817 Dewey av., Z5 **ALR**
Rubendall, C.....Medical Arts bldg., Z2 **OALR**
Smith, Thomas T.....211 Medical Arts bldg., Z2 **ALR**
Stokes, William H.....Medical Arts bldg., Z2 **OP**
Swab, Charles M.....Medical Arts bldg., Z2 **OP**
Watke, Frederic Martin.....Medical Arts bldg., Z2 **ALR**

NEVADA

RENO

Clarke, Samuel T.....Medical Dental bldg. **OP**
Creveling, Earle LaMont.....P. O. Box 2446 **ALR**
Fuller, John Andre.....First Nat'l Bank bldg. **OALR**

NEW HAMPSHIRE

CONCORD
MacMillan, Andrew L., Jr.....46 Pleasant ALR

DOVER
Reid, Thomas F.....538 Central av. ALR

HANOVER
Murtagh, John Anthony.....Hitchcock Clinic ALR

KEENE
Ford, Leroy Sargent.....30 School St. ALR

MANCHESTER
Monette, C. J.....814 Elm ALR
Rahmanop, Walter B.....1426 Elm ALR
Togus, Leopold T.....967 Elm ALR

NASHUA
Marcotte, Raymond H.....196 Main ALR
Nutter, C. F.....16 Amherst OP

PORTSMOUTH
Allen, Cary D. .....350 State st. ALR

NEW JERSEY

ASBURY PARK
Baeseman, R. Winfield.....501 Grand av. OALR
Fisher, James A.....Jersey Central bldg. OALR
Upham, Helen F.....305 Third av. OALR

ATLANTIC CITY
Charlton, C. Coulter.....124 S. Illinois av. ALR
Dalton, S. Eugene.....101 S. Surrey av., Ventnor ALR
Fishof, Frank E., Capt. (M.C.)..England General Hosp. ALR
Gordon, Benjamin L.....Professional Arts bldg. OP
Howland, Alvin Wilcox..Maj. (M.C.), 3310 Fairmount av. OP

CAMDEN
Kline, Oram R.....514 Cooper ALR
Meyer, George P.....410 Haddon av. OP
Rutterberg, Max.....303 Cooper ALR
Shemeley, William G., Jr.....7 Haddon av. OALR
Shipman, James S.....514 Cooper OP
Shope, Edward Pierce L.....807 Wilson bldg. OP

EAST ORANGE
Buvinger, Charles W.....50 Washington OALR
Campbell, William.....144 S. Harrison ALR
Cregar, John S.....150 Harrison OP

ELIZABETH
Ehrlich, Max.....721 N. Broad st., Z3 ALR
Gadomski, Casimir Francis
Capt. (M.C.), 331 S. Broad st., Z2 OP
Goldmacher, H. B.....113 Elmora av., Z2 ALR
Griesemer, Z. Lawrence.....1145 E. Jersey st., Z1 OP
Kapp, Carl G.....440 Westminster av., Z3 ALR
Sadoff, Irvin E.....Capt. (M.C.), 1045 North av., Z4 ALR

ENGLEWOOD
Worcester, George F.....220 Engle ALR

FORT MONMOUTH
Mountjoy, Philip S., Capt. (M.C.), Regional Hospital ALR

GREYSTONE PARK
Gambill, Perry Judson.....New Jersey State Hospital ALR

HACKENSACK
Berke, Raynold N.....430 Union OP
Dezer, Charles N., Jr.....210 Main ALR
Greenfield, William John.....50 Anderson ALR
Hensle, Otto S.....Maj. (M.C.), 100 Prospect av. ALR
Liva, Arcangelo.....5 Pangborn place OALR
Spiegelglass, A. B.....417 Main ALR

HADDONFIELD
Shafer, A. H.....Lt. Col. (M.C.), E. Greenman rd. ALR

JERSEY CITY
Pyle, Wallace.....15 Exchange place, Z2 OALR
Zbar, Joseph E.....2690 Boulevard, Z6 ALR

LONG BRANCH
Strauss, Arthur.....130 Pavilion av. ALR

MONTCLAIR
Agnew, Hobart McV.....17 Plymouth OP
Shannon, James B.....60 S. Fullerton av. ALR
Shannon, L. M.....66 S. Fullerton av. ALR

MCORESTOWN
Hebble, Howard Miller.....320 Chester av. ALR
Ulmer, David H. B.....199 Chestnut ALR

MORRISTOWN
Byrne, J. Arthur.....16 Elm ALR
Mathews, Raymond H.....186 South ALR

MULLICA HILL
Cox, John R., Capt. (M.C.).....OP

NEWARK
Adelman, Benjamin B.....190 Clinton av., Z5 OP
Berney, Irving Vincent.....31 Lincoln Park, Z2 ALR
Cardwell, Edgar P.....965 Broad st. ALR
Eagleton, Wells P.....15 Lombardy, Z2 ALR
Fischer, Louise.....Med. Towers, 31 Lincoln Park, Z2 ALR
Goldstein, Henry Z., Capt. (M.C.)....31 Lincoln Park ALR
Hahn, William H.....15 Lombardy, Z2 OP
Hughes, L. W.....965 Broad, Z7 OP
Hurff, J. Wallace.....671 Broad st., Z2 OALR
Krone, William Frank.....31 Lincoln Park, Z2 ALR
O'Connor, D. F.....671 Broad, Z2 OALR
Orton, Henry B.....224 Delavan av., Z4 ALR
Peer, L. A.....965 Broad, Z2 ALR-PI S
Sherman, A. Russell.....671 Broad, Z2 OP
Sherman, Elbert S.....671 Broad, Z2 OP
Wood, Earl LeRoy.....225 Ballantine Pkwy. Z4 ALR
Zehnder, A. Charles.....188 Roseville av., Z7 OP

NEW BRUNSWICK
Kler, Joseph Henry.....151 Livingston av. ALR

ORANGE
Emerson, Linn.....303 Park av. OALR

PASSAIC
Ehrenfeld, Edward.....185 Lexington av. OP

NEW JERSEY — Continued

PATERSON
Atwood, Edward A.....360 Park av. Z4 ALR
Denison, Ward C.....316 Broadway ALR

PERTH AMBOY
Cole, Nathan B.....Lt. Col. (M.C.), 104 Market OALR
Mann, J. J.....255 State ALR

PLAINFIELD
Childers, Robert Jefferson.....604 Park av. ALR

RIVERSIDE
Geary, Russell Diener.....337 Bridgeboro road ALR

SOUTH ORANGE
Miller, Joseph A.....364 Prospect st. ALR

SOUTH PLAINFIELD
Levy, Abram.....1401 Plainfield av. OP

SUMMIT
Burritt, Norman W.....30 Beechwood road ALR
Sly, John L.....382 Springfield av. ALR

TEANECK
Daly, John F.....877 Queen Anne rd. ALR
Littwin, Charles.....950 Queen Anne road OALR

TENAFLY
Braley, A. E., Comdr. (M.C.), USNR.....80 Park st. OP

TRENTON
Ivins, William Clifford.....455 W. State, Z8 ALR
Levy, Irvin.....222 W. State st., Z8 OP
Moriconi, Albert F.....438 Hamilton av. ALR
Wilner, Arthur S.....225 West State st. ALR

UNION
Schillinger, Raphael, c/o Interchemical Corp.,
1120 Commerce Ave. ALR

UNION CITY
Conty, Anthony J.....318 Forty-eighth ALR
Pagliughi, John J. .....1915 Palisade av. ALR
Sacco, Anthony G.....2200 New York av. OALR

WEEHAWKEN
Ash, Arthur F.....710 Boulevard East ALR

WESTFIELD
Roh, Robert F., Lt. Comdr. (M.C.).....727 Glen av. ALR
Tomlinson, Rolland Davis.....505 East Broad st. ALR

WEST NEW YORK
Selinger, Samuel.....413 Sixtieth OALR

NEW MEXICO

ALBUQUERQUE
Brehmer, Harrison L.....First Nat'l Bank bldg. OALR

ROSWELL
Morrison, George S.....308 W. 2nd st. ALR

SANTA FE
Barton, William C.....813 Don Gasper av. OALR
Brooks, Jack E., Lt. (M.C.), c/o P. O. Box 1539 ALR
Pumphrey, Gordon H.
Lt. Col. (M. C.), Bruns General Hospital OP
Tracewell, George L., Capt. (M.C.), 0-55018,
Bruns General Hosp. ALR

NEW YORK

ALBANY
Bedell, Arthur J.....344 State, Z6 OP
Cetner, John A.....365 State St..OP
Dowling J. Ivimey.....116 Washington av., Z6 OALR
Dubins, Henry B.....248 State st., Z6 OP
Freund, E. M.....762 Madison av., Z3 ALR
Holohan, Joseph Leo.....330 State, Z6 ALR
Judge, Harry V.....46 Willett, Z6 OP
Kemp, Roy C.....343 State, Z6 ALR
Mott, Walter C.....75 Willett st., Z6 OP
Simon, Emanuel, Lt. Comdr. (M.C.)....577 Western av. ALR
Tebbutt, H. K.....240 State, Z6 ALR
Volk, Benjamin M., Capt. (M.C.),
c/o George Myers, 100 State st., Z7 ALR

AUBURN
Bullard, C. W.....120 Genesee ALR
Platt, E. S.,.....Hamilton Ave. OP
Wiley, Jason L.....Metcalf bldg. OP

BALDWIN
Gaillard, Milton T.....5 Park av. OP

BATAVIA
Wilson, Robert G.....304 East Main st. ALR

BAY SHORE
McGrath, Harry.....12 Shore Lane OP

BAYSIDE
Vadala, Anthony J., Col. (M.C.),
Station Hosp., Fort Totten OALR

BINGHAMTON
Levy, Harry H.....119 Murray OP
Monserrate, Manuel Maria.....73 Main ALR
Randall, Hiram.....81 Main ALR
Smith, Windsor R.....67 Front ALR
Vogt, George C.....140 Chapin ALR
Watson, H. de Witt.....151 Front OALR

BRONXVILLE
Branigan, C. Hugh.....17 Kraft av. OP
Carter, William W.....6 Chestnut av. ALR
Kenyon, Byron B.....44 Pondfield rd. ALR
Petruzzi, William Astor.....65 Pondfield rd., Z8 ALR
Ross, John.....37 Oriole av. ALR

BROOKLYN
Agan, William B.....1 Nevins, Z17 OP
Baker, John Percy .....51 S. Oxford, Z17 ALR
Behrens, Alvin.....9 Prospect Park West, Z15 OP
Beinfeld, Henry H. .....760 Eastern Parkway, Z13 ALR
Berger, Meyer D.....681 Ocean av., Z26 ALR

NEW YORK — Continued

Bergmann, Milton B.....959 Bushwick av., Z21 OP
Bernstein, David.....4611 12th av. ALR
Blankfeld, Nathan ....429 Lincoln pl., Station B, Z16 ALR
Blumenfeld, Louis.....221 Brooklyn av., Z13 ALR
Brooks, Morris J.....455 Ocean av., Z26 ALR
Bruno, Joseph M. L.....31 Jefferson, Z6 OP
Buonaguro, Michael J.....589 Lorimer, Z11 OP
Campbell, G. S.
Capt. (M.C.), U. S. Naval Medical Supply Depot, Z1 ALR
Cutino, R. M.....79 Pierrepont, Z2 OP
Cutler, Abraham Maurice.....750 Ocean av., Z26 ALR
Ebeling, William B.....54 Greene av., Z5 OP
Evans, J. N.....23 Schermerhorn, Z2 OP
Evatt, Clay W., Brooklyn Eye & Ear Hosp., 29 Green Ave. ALR
Feldman, Joseph.....668 Eastern Parkway, Z13 ALR
Fine, Abraham.....925 Ocean av., Z26 OALR
Fisher, George Garthwaite.....271 New York av., Z16 ALR
Freiman, George.....99 Lafayette av., Z17 OP
Garofalo, Charles Joseph.....439 Seventy-seventh, Z9 ALR
Gerzog, Bennett G.....891 St. Marks av., Z13 ALR
Gilligan, Alexander.....1154 Dean, Z16 ALR
Golden, Matthew G.....1 Nevins, Z17 ALR
Golding, Joseph E.....1 Nevins, Z17 OP
Gottlieb, Bernard N.....887 Eastern Parkway, Z16 ALR
Greenfield, Samuel D.....169 New York av., Z16 ALR
Griffin, Edwin A.....18 Prospect Park, West, Z15 ALR
Gubner, Julius.....25 Lefferts av., Z25 ALR
Hargitt, Charles A.....17 Schermerhorn, Z2 OP
Harris, Morris L.....20 Plaza st., Z17 ALR
Holzberger, John C.....7005 Freshpond, Z27 ALR
Hudock, John Paul.....Long Island College Hosp. ALR
Hull, Allen.....401 76th st., Z9 OP
Kaplan, Carl.....69-17 Forest av., Z27 ALR
Kasnetz, Joseph P.....678 Eastern Parkway, Z13 ALR
Kaufman, Maxwell.....85 Maujer, Z6 ALR
Kayser, Reuben....442 Bay Ridge Parkway, 75th st., Z9 ALR
Keil, Peter A.....118 Pennsylvania av., Z7 ALR
Knudsen, Arnold F.....419 Bay Ridge Parkway, Z9 ALR
Kopp, Mortimer M.....79 Argyle road, Z18 ALR
Kravitz, Daniel.....861 Park place, Z16 OP
Kreag, Karl A. .....167 Joralemon, Z2 ALR
Krimsky, Emanuel.....745 Eastern Pkwy. OP
Kruskal, I. D.....101 Lafayette av., Z17 OP
Kuritsky, Isadore.....1480 Nostrand av., Z26 ALR
Lasky, Mortimer A.....Fox Medical bldg., 1 Nevins st. OP
Lloyd, Ralph I.....14 Eighth av., Z17 OP
Lombardo, Melchiore.....142 Joralemon st, Z2 OP
Lupo, Carl W., Col. (M.C.), 215 St. Johns Place, Z17 ALR
Mallon, Frank E., The Williamsburgh Park bldg., 1 Hanson Pl. Z17 OP
Menger, Louis Charles.....202 Weirfield, Z21 ALR
Mensher, Ira Wadsworth.....50 Plaza st., Z17 OP
Mezz, David.....330 New York av., Z13 ALR
Moehle, Walter.....15 Schermerhorn, Z2 OP
Moore, Walter V.....1 Nevins, Z17 OP
Moorhead, Robert L.....125 Remsen, Z2 ALR
Moyer, John Sanford.....901 Washington av., Z25 ALR
Nelson, Nathaniel F.....4910 15th av., Z19 OP
Nova, Jules M.....349 Adelphi, Z5 OP
O'Brien, G. R. .....307 Sterling pl., Z17 ALR-PIS
Ohly, John H.....22 Schermerhorn, Z2 OP
Place, E. Clifford.....59 Livingston, Z2 OP
Rabbiner, Max.....358 New York av., Z13 ALR
Rizzuti, A. Benedict.....160 Henry st., Z2 OP
Rosenthal, Benjamin Charles....140 New York av., Z16 OP
Ruchman, Jacob.....301 Brooklyn av., Z13 ALR
Saskin, Edward.....855 St. Marks av., Z13 OP
Schmidt, James M.....40 S. Oxford, Z17 ALR
Scurti, Bernard V., Lt. (M.C.)....51 Harmon st., Z21 ALR
Sher, Maurice A.....5022 Fifteenth av., Z19 ALR
Shorr, Abraham.....225 Eastern Parkway, Z16 ALR
Silberman, Meyer.....266 Brooklyn av., Z13 ALR
Silverberg, Joseph S.....755 Ocean av., Z26 ALR
Sparber, Herman.....4701 Fifteenth av., Z19 OP
Steinbugler, William F. C.....515 Ocean av., Z26 OP
Stern, Wilhelm E.....1099 Bushwick av., Z21 ALR
Sunde, Einar A.....627 Second, Z15 ALR
Thaler, Nathan.....570 Eastern Parkway, Z25 ALR
Tucker, Frank Landale, Jr.....464 Ninth st., Z15 ALR
Usen, Louis.....278 New York av., Z16 ALR
Viviani, John J.....180 Suydam st., Z21 ALR
Wechsler, A. H.....340 New York av., Z13 ALR
Weeth, Charles R.....37 Remsen, Z2 ALR
Weinstein, Samuel.....441 Ocean av., Z26 ALR
Welt, Bernard.....135 New York av., Z16 ALR
Wieselthier, Maurice L.....1322 Union st., Z13 OP
Zwerling, Samuel.....789 St. Mark's av., Z13 ALR

BUFFALO

Barone, Michael Horace, Major (MC) 468 Delaware av. Z2 ALR
Beyer, Louis J.....449 Delaware av., Z2 ALR
Bozer, Hermann Eugene.....468 Delaware av., Z2 ALR
Brown, C. M.....510 Delaware av., Z2 ALR
Buffum, Edward S.....40 W. North, Z2 ALR
Cott, C. C.....333 Linwood av., Z9 ALR
Cowper, H. W.....543 Franklin, Z2 OP
Fairbairn, John F.....925 Delaware av., Z9 ALR
Fowler, James Gwynne.....412 Linwood av., Z9 OP
Freeman, Sheldon B.....196 Linwood av., Z9 OP
Frost, Carl Grover.....333 Linwood av., Z9 ALR
Gerstner, Martin Llewellyn, Major (M.C.), 27 Admiral rd. ALR
Glosser, Herbert H.....448 Franklin, Z2 OP
Hague, Eliott B.....454 Franklin, Z2 OP
Harnick, Israel.....1132 Delaware av., Z9 ALR
Howard, Wm. M.....389 Linwood av., Z9 OP
Jones, W. Yerby.....436 Sycamore st., Z4 OP
King, Walter F.....519 Delaware av., Z2 OP
Koenig, Ivan J.....40 W. North, Z2 OP
Krystaf, Joseph George.....1004 Fillmore av., Z11 ALR
Le Win, Thurber.....112 Linwood av., Z9 OP
Luhr, A. F.....40 W. North, Z2 OP
McGregor, D'Arcy .....83 Bryant st., Z9 ALR
March, Clara A.....465 Ashland, Z13 OP
Olmsted, K. Elizabeth Pierce....568 Lafayette av., Z13 OP
Riwchun, Meyer H.....860 W. Ferry St. OP
Rosenberg, Joseph.....333 Linwood av., Z9 ALR
Scanio, Joseph Charles.....333 Linwood av., Z9 ALR
Schutz, Joseph A.....2804 Main, Z14 OP
Smith, Leon.....467 Linwood av., Z9 ALR
Soldineer, Marshall Y.....333 Linwood Ave. ALR
Trotter, Homer A.....40 W. North, Z2 ALR
Wurtz, W. J. M.....333 Linwood av., Z9 ALR

CHESTER

Overton, J. W.....RFD 1 OALR

COOPERSTOWN

Kieler, Charles B.....M. I. B. Hospital ALR

CORNING

Armentrout, Lewis H., Jr.....22 E. 1st st. ALR

NEW YORK — Continued

CORTLAND
Higgins, R. P. ..... 20 Court OALR

EAST AURORA
Andrews, H. D. ..... 429 Oakwood av. OP

ELMIRA
Boland, Wm. T. ..... 378 W. Church st. OP
Glover, Arthur C. ..... 311 W. Church OALR
Ridall, Earle G., Major (M.C.) ..... 91 Durland Ave. ALR

FAR ROCKAWAY
Hirschmann, Hans A. ..... 1502 Mott av. ALR

FLUSHING
Coleman, Benjamin ..... 36-40 Bowne st. ALR
Goode, Edward Allen ..... 143-28 Sanford av. ALR
Liggett, Harold ..... 44-05 Parson blvd. ALR
Weiss, Harry ..... 37-21 Parsons blvd. OP

FOREST HILLS, L. I.
Kafka, M. Martyn ..... 109-05 72nd av. ALR

FREEPORT
Rossman, Morris M. ..... 115 N. Main st. ALR

GENEVA
Abbott, Henry B. ..... 423 Main st. OP
Fairfax, Kenneth T. ..... 423 Main st. OP
Spengler, John Arthur ..... 423 S. Main OP

GOWANDA
Sklarow, Louis ..... 43 Center st. ALR

GLEN FALLS
Buck, Clair A. ..... 191 Glen ALR

HEMPSTEAD
Coon, Eugene H. ..... 131 Fulton av. ALR
Hughes, Wendell L. ..... Professional bldg. OP-PI S
Jarrott, James T. ..... 131 Fulton av. OP
Maier, Marcus M. ..... 513 Front st. ALR
Smith, Henry Buel ..... 131 Fulton av. ALR

HUNTINGTON
Kimbrig, Max ..... 20 High ALR

ITHACA
Wilson, Hudson J. ..... First Nat'l Bank bldg. ALR

JACKSON HEIGHTS, L. I.
Seelig, Charles A., Lt. (M.C.), USNR, 80-09 35 av. ALR

JAMAICA, L. I.
Bender, M. S. ..... 88-05 150th, Z2 ALR
Douglas, Edward M. ..... 87-85 153rd, Z2 OP
Kane, J. T. ..... 88-49 163rd, Z3 ALR
Keeler, Lansing H. ..... 89-04 148th, Z2 OALR
Miller, Saul ..... 88-05 150th, Z2 OP
Minsky, Arthur ..... 8601 Homelawn st., Z3 OP

JAMESTOWN
Bourne, Malcolm G. ..... 110 W. 3rd OP
Shearer, George M. ..... 25 Spruce st. ALR

JOHNSTOWN
Sarno, J. Frederick ..... 109 S. William st. ALR

JORDANVILLE
Swift, Donald E., Major (M.C.) ..... OP

KINGSTON
Wilson, Harold A. ..... 71 Maiden Lane ALR

LAKE PLACID
Kingston, Louis C., Capt. (M.C.), 1213th S. C. S. U. ALR

LANCASTER
Palmer, Milton A. ..... 18 Park blvd. OP

LITTLE FALLS
Newton, Morris H. ..... Burrell bldg. OP

LOCKPORT
Morgana, Dante James ..... 13 Main OP
Parker, Harry L. ..... 88 East av. ALR
Pierce, William W. ..... ALR

LONG ISLAND CITY
Gewanter, Robert ..... 41-44 44th st., Z4 ALR
Hulka, J. H. ..... 30-28 36th st. OALR

LYNBROOK, L. I.
Gerstley, Manfred J. ..... 103 Hempstead av. ALR

MIDDLETOWN
Hicks, William J. ..... 15 King ALR
Neller, Walter I. ..... 121 Wickham av. OP

MILLERTON
Tabor, Gilbert Stevens ..... 11 Park Row ALR

MITCHEL FIELD, L. I.
Dattner, Herman B., Major (M.C.), 0-466058, 110th AAF BU, Sq. B ALR
Good, Palmer W., Capt. (M.C.), Eye Clinic, O.C. Hosp. OALR
Owsley, R. W., Major (M.C.) ..... Quarters 353 ALR
Weymuller, Ernest A., Maj. (M.C.), Office of the Air Surgeon, Hq. 1st Air Force, AAB ALR

MT. KISCO
Newlands, W. A. ..... 359 East Main ALR

MT. VERNON
Houlahan, James M. ..... 117 S. Second av. OP
Keefe, William John ..... 205 E. Sidney av. OALR
Morrone, Francis X. ..... 117 South 2nd av. ALR
Vrooman, C. O., Major (M.C.) ..... 159 Park Ave. OP
Yavelow, Charles S. ..... 117 South Second av. ALR

NEWBURGH
Browning, Birt Lee ..... 208 Grand ALR
McWilliam, Charles S. Lt. Col. (M.C.), 205 Liberty st. OP

NEW ROCHELLE
Beck, A. L. ..... 421 Huguenot OALR
Gibson, William J. ..... 650 Main st. ALR
Hetrick, L. E. ..... 260 North av. ALR
Smith, Morley T. ..... 421 Huguenot ALR

NEW YORK CITY
Aebli, Rudolph ..... 30 E. 40th, Z16 OP
Allan, William B. ..... 410 Park av., Z22 OALR
Almour, Ralph ..... 57 W. 57th st., Z19 ALR
Anderson, Orrin E. ..... 17 E. 61st st. ALR
Atkinson, Miles ..... 127 E. 70th st., Z21 ALR

NEW YORK — Continued

Auerbach, Julius.....897 Park av., Z21 ALR
Austen, Willard Emerson..9 Rockefeller Plaza, Rm. 1810 ALR
Bacon, Lewis H., Lt. Comdr. (M.C.),
USS Haven, AH-12 Detail, New York Navy Yard OP
Ballin, M. J.....25 E. 77st., Z21 ALR
Barnes, Mark Hopkins.....324 E. 41st st., Z17 OALR
Bassen, Edward J.....70 E. 66th st., Z21 OP
Bassett, David I.....1075 Grand Concourse, Z52 ALR
Bender, M. S.....121 E. 60th, Z22 ALR
Berens, Conrad.....35 E. 70th, Z21 OP-PI S.
Berger, Isidore.....888 Grand Concourse, Bronx, Z51 ALR
Berger, Murray, Major (M.C.), 300 Central Park W., Z24 ALR
Berliner, M. L.....57 W. 57th, Z19 OP
Bilchick, Edwin B.....Maj. (M.C.), 216 W. 89th, Z24 ALR
Bogart, Donald Weeks.....20 E. 53rd, Z22 OP
Bonaccolto, Girolamo.....123 E. 61st st., Z21 OP
Bowers, W. C.....17 E. 61st., Z21 ALR
Boyd, Greydon G., Comdr. (M.C.), USNR 307 E. 44th st. ALR
Boyes, T. L.....654 Madison av., Z21 OP
Breuning, Paul H.....133 E. 58th, Z22 ALR
Brighton, George R.....580 Park av., Z21 ALR
Brodnitz, Friedrich S.....667 Madison av., Z21 ALR
Broones, Otto.....302 W. 87th, Z24 ALR
Brown, Harold W.....15 Park av., Z16 OP
Bruce, G. M., Capt. (M.C.), USNR,
635 W. 165th st., Z32 OP
Bruder, Joseph.....57 W. 57th, Z19 OALR
Buchbinder, Murray W., Major (M.C.)
39 Whitehall St. Z4 ALR
Burchell, Edgar B., New York Eye and Ear Infirmary,
2nd av., Corner 13th st., Z3
Burman, Herman J.....1235 Grand Concourse, Z52 ALR
Carroll, Frank D.....Eye Institute, 635 W. 165th, Z32 OP
Castroviejo, Ramon.....635 W. 165th, Z32 OP-PI S
Chace, Robert R.....635 W. 165th st., Z32 OP
Chamlin, Max.....1840 Grand Concourse OP
Cinelli, Albert A.....1021 Park av., Z28 ALR
Cohen, Martin.....29 E. 64th, Z21 OP
Coleman, Joseph A., Capt. (M.C.), 0-333256,
Rm. 1401, 200 Madison av., Z16 ALR
Coleman, Lester Laudy.....162 E. 80th, Z21 ALR
Conboy, John E. .....2265 University av., Z53 OP
Conley, John J.....425 E. 51st st. ALR
Constantine, Elizabeth Frederick....340 E. 63rd st., Z21 OP
Corya, Harold W.....30 E. 40th, Z16 ALR
Cracovaner, Arthur J.....103 E. 78th st., Z21 ALR
Creasy, Raymond C.....67 E. 59th, Z22 ALR
Crespo, Jose E.....28 West 95th st., Z25 ALR
Cunning, Daniel S.....121 E. 60th Z22 OALR
Daley, Jacob.....104 E. 40th, Z16 ALR
Davidson, Morris.....17 Park av., Z16 OP
Davis, G. E.....14 E. 90th st., Z28 OALR
Davis, Hugh P.....135 E. 65th St. Z21 ALR
Delman, Abraham H., Lt. Col. (M.C.)
Veterans Administration, 252 7th Ave. Z1 ALR
Depping, Charles William.....17 W. 54th, Z19 ALR
Dillemuth, Frederick Joseph.....404 E. 154th, Z55 ALR
Dlugasch, Louis.....110 E. 36th, Z16 ALR
Doherty, W. B.....150 W. 55th, Z19 OP
Druss, Joseph George.....1040 Park av., Z28 ALR
Dunnington, John H., Institute of Ophthalmology,
Presbyterian Hosp., 635 W. 165th st., Z32 PLS-OP
Dwyer, James G.....375 Park av., Z22 ALR
Epstein, Sidney S.....2021 Grand Concourse, Z53 OP
Esterman, Benjamin.....983 Park av., Z28 OP
Everett, A. Reginald.....11 Wall st., Z5 ALR
Falkson, Kurt F.....225 W. 86th st., Z24 ALR
Fernlund, George Byron
8620 115th st., Richmond Hill, Z18 ALR
Fitzgerald, Fred J. C.....118 E. 65th, Z21 OP
Foster, Harold.....92-11 35th av., Jackson Heights ALR
Fowler, Edmund Prince, Jr...180 Ft. Washington av., Z32 ALR
Fowler, Robert H.....610 Park av., Z21 ALR
Fowlkes, John Winston.....12 E. 63rd, Z21 ALR
Fox, Sidney A.....63 E. 75th St. X21 OP
Francis, Charles C.....610 West End av., Z24 ALR
Frank, David I.....60 Gramercy Park, Z10 ALR
Fread, Bernard.....45 E. 85th, Z28 OP
Frey, W. G., Jr. .....121 E. 60th, Z22 OP
Friedman, Benjamin, Comdr. (M.C.) USNR
485 Central Park W. OP
Frothingham, Florie D.....133 E. 58th, Z22 ALR
Furman, Martin A.
203 W. 98th st., c/o Mr. H. King, Z25 ALR
Garrick, Thomas J.....40 E. 61st, Z21 ALR
Gartner, Samuel.....521 Park av., Z21 OP
Gatewood, Wm. L.....111 E. 61st st., Z21 ALR
Gillespie, Elmer H.....30 E. 40th st., Z16 ALR
Gilmore, Goodlatte Browne..2940 Grand Concourse, Z58 ALR
Givner, Isadore.....108 E. 66th, Z21 OP
Glushak, Leopold.....1 West 85th, Z24 ALR
Goldman, H. G.....57 W. 58th, Z19 ALR
Goldman, Irving Brice.....121 E. 60th, Z22 ALR
Gould, Nathaniel Jay.....940 Grand Concourse, Z56 OP
Graebner, Herbert
American Airlines, N. Y. M. A., Jackson Heights ALR
Graef, Fred W.....140 East 54th St., Z22 ALR
Grant, Maurice David.....1860 Morris av., Z53 ALR
Greene, James S.....61 Irving place, Z3 ALR
Greenfield, William J.....30 E. 40th av., Z16 ALR
Gresser, Edward Bellamy.....39 E. 75th, Z21 OP
Griesman, Bruno L.....3 East 66 st., Z21 ALR
Grimaldi, Americo John.....100 W. 59th, Z19 OP
Grove, Russell Clark.....60 E. 58th, Z22 ALR
Gurtov, John Jacob.....1235 Grand Concourse, Z52 ALR
Guy, Loren P.....40 E. 62nd, Z21 OP
Hanley, J. Swift.....40 W. 55th, Z19 ALR
Hardy, LeGrand H.....23 E. 79th, Z21 OP
Hartshorne, Isaac.....30 W. 59th, Z19 OP
Haskin, W. H.....375 Park av., Z22 ALR
Hersh, Joseph H.....57 W. 57th st., Z19 ALR
Herzig, Arthur J.....667 Madison av., Z21 ALR
Hetrick, J. A. Werner.....667 Madison av., Z21 ALR
Hetrick, L. E.....40 E. 61st, Z21 ALR
Holden, William H.....755 Park av. ALR
Hory, Joseph S.....2488 Grand Concourse, Z58 OP
Houlahan, J. M.....653 Park av., Z21 OP
Hunt, Westley Marshall.....907 5th av., Z21 ALR
Hynes, Frank Joseph.....121 E. 60th, Z22 ALR
Ide, David.....1749 Grand Concourse, Z53 ALR
Imperatori, C. J.....108 E. 38th, Z16 ALR
Ingalls, Raymond G., The Institute of Oph.,
Presbyterian Hospital, 635 W. 165th st. OP
Jacobius, Lawrence .....23 W. 73rd., Z23 ALR
Jacobs, S. M.....15 West 81st st., Z24 OALR
Jaffe, Morris.....940 Grand Concourse, Z56 OP
Jessel, Erwin, Capt. (M.C.), c/o Mrs. E. Jessel,
156 E. 178th st., Z53 OP
Johnson, Thomas Holland.....30 W. 59th, Z19 OP
Jones, David H.....140 E. 54th, Z22 LR
Jones, Marvin F.....121 E. 60th, Z22 ALR

NEW YORK — Continued

Judd, H. B.....40 E. 61st, Z21 ALR
Keil, Frank C.....660 Madison av., Z21 OALR
Kelley, Samuel F.....47 E. 61st st. ALR
Kelly, Joseph Dominic.....140 E. 54th, Z22 OALR-PI S
Kend, Lee.....133 E. 58th, Z22 ALR
Kirby, D. B.....780 Park av., Z21 OP-PIS
Kirkbright, James C.....40 E. 61st, Z21 ALR
Kleinfeld, Louis.....100 E. 74th st., Z21 ALR
Knapp, Arnold.....10 E. 54th, Z22 OP
Knapp, Arthur Alexander.....112 E. 73rd St. OP
Knighton, W. S.....121 E. 61st, Z21 OP
Knopf, Saul.....30 E. 40th st., Z16 ALR
Koch, Ferdinand L. Philip.....60 E. 75th st., Z21 OP
Kopetzky, S. J., Col. (M.C.).....71 E. 80th st., Z21 ALR
Kornberg, Maurice.....235 E. 22nd st., Z10 ALR
Kornzweig, Abraham L.....1200 Fifth av., Z29 OP
Kronenberg, Bernard.....737 Park av., Z21 OP
Krug, Ernest F.....988 Fifth av., Z21 OP
LaGattuta, Frank.....2488 Grand Concourse, Bronx 58 OP
Lambert, Robert K.....1010 Fifth av., Z28 OP
Last, Murray A.....1095 Park av., Z28 OP
Laval, Joseph.....136 E. 64th, Z21 OP
La Vigne, A. A.....667 Madison av., Z21 OALR
Law, Frederick M.....140 E. 54th, Z22 ALR
Lefkon, Irving M.....37-14 73rd, Jackson Heights ALR
Lempert, Julius.....119 E. 74th st., Z21 ALR
Levbarg, John J.....176 W. 87 St. Z24 ALR
Limbach, Earl Frederick..30 W. 59th, Station "G", Z19 ALR
Loewe, Walter R., Comdr. (M.C.), 1114 Madison av., Z28 OP
Lore, John M.....325 West End av., Z23 ALR
Lubart, Joseph.....310 West 86th st. ALR
McAuliffe, G. W.....630 Park av., Z21 ALR-PI S
McClanahan, Robert.....60 E. 75th, Z21 OP
McCollom, Robert L.....115 E. 61st st. ALR
McCuaig, Duncan Roderick.....40 E. 61st st. ALR
McCuaig, Victor C.....40 E. 61st, Z21 ALR
McDannald, C. E.....100 W. 59th, Z19 OP
McGrath, James B.....2615 Grand Concourse, Z58 ALR
McLean, John M.....525 E. 68th, Z21 OP
Macdonald, James O.....67 E. 59th st., Z22 ALR
MacDonald, Philip G.....115 E. 61st st.,Z21 ALR
Macnie, John P.....2501 Palisade av., Z63 OP
Macpherson, Duncan.....920 Fifth av., Z21 ALR
Maliniac, Jacques W.....106 E. 78th, Z21 ALR-PI S
Martin, Ashby G.....895 Lexington av., Z21 ALR
Masor, Philip L.....306 E. 15th St. Z3 OP
Matusow, Abraham P.....1100 Grand Concourse Z 56 ALR
Maybaum, J. L.....1070 Park av., Z28 ALR
Miller, Isidore.....2021 Grand Concourse, Z53 ALR
Miller, Joseph William.....242 E. 19th, Z3 ALR
Minsky, Henry.....2 E. 95th, Z28 OP
Mirow, David.....237 E. 20th, Z3 ALR
Mittendorf, A. D.....399 Park av., Z22 OP
Moore, James A.....530 E. 90th st., Z28 ALR
Moshinsky, Alexander L.....237 E. 20th, Z3 ALR
Myerson, M. C.....136 E. 64th, Z21 ALR
Neer, Edmonde DeWitte.....115 E. 61st, Z21 ALR
Neuberger, Julius Frederick, Capt. (M.C.), USN, 325 E. 57th st., Z22 ALR
Neuschatz, Gerald.....327 Central Park West, Z25 ALR
Newman, Saul C., Major (M.C.)...845 West End av., Z25 ALR
Nisselson, Max.....250 Riverside drive, Z25 ALR
Northcott, Thomas A.....40 E. 61st, Z21 OP
O'Kane, George H., Comdr. (M.C.) USNR 55 E. 86th St. Z28 ALR
Opin, Edward.....2065 Grand Concourse, Z53 ALR
Page, John R.....127 E. 62nd, Z21 ALR
Palmer, Arthur.....667 Madison av., Z21 ALR-PI S
Paton, R. T.....927 Park av., Z28 OP
Payne, Brittain F.....17 E. 72nd st., Z21 OP
Payne, Frank.....635 W. 165th st., Z32 OP
Pearlman, Louis M.....53 E. 93rd, Z28 ALR
Perera, Charles A.....70 E. 66th, Z21 OP
Perkins, Osborn P.....121 E. 60th, Z22 OP
Pfeiffer, Raymond L.....635 W. 165th, Z32 OP
Pitman, Louis K.....1749 Grand Concourse, Z53 ALR
Posner, Adolph.....667 Madison av., Z21 OP
Pullen, Edward Markey.....30 E. 40th, Z16 ALR
Reese, Algernon B.....73 E. 71st, Z21 OP
Risch, Otto C.....104 E. 40th, Z16 ALR
Rolett, D. M.....876 Park av., Z21 OP
Rosen, David M.....19 W. 55 st., Z19 ALR
Rosen, Sam.....101 E. 73rd, Z21 ALR
Rosenbluff, Michael.....225 W. 106th, Z25 ALR
Rosenwasser, Harry.....101 E. 73rd st., Z21 ALR
Ross, John.....6 E. 70th, Z21 ALR
Ryan, Maxwell D.....660 Madison av., Z21 ALR
Sackin, David..."St. Moritz," 50 Central Park South, Z19 ALR
Saltzman, Samuel L.....334 W. 86th, Z24 OP
Samuels, Bernard.....57 W. 57th, Z19 OP
Sauer, John J.....30 E. 40 st., Z16 OP
Saunders, Truman L.....103 E. 65th, Z21 ALR
Scal, Joseph Coleman.....10 E. 96th, Z28 ALR
Schattner, Alfred.....115 E. 61st., Z21 ALR
Schechter, Solomon P.....1749 Grand Concourse, Z53 ALR
Scheer, Henry M.....522 West End av., Z24 ALR
Schlivek, Kaufman.....1016 Fifth av., Z28 OP
Schmidt, Otto V. M.....568 Park av., Z21 ALR
Schugt, Henry P.....122 E. 76th, Z21 ALR
Schutz, Sigmund.....105 W. 55th st. OP
Schwartz, A. A.....7 W. 71st, Z23 ALR
Schwartz, Harry.....1749 Grand Concourse, Z53 OP
Schwartz, Leo.....136 E. 57th, Z22 ALR
Seward, J. A.....115 E. 61st, Z21 ALR
Sitchevska, Olga L.....30 Fifth av., Z11 OP
Smith, Clarence Henry.....140 E. 54th, Z22 ALR
Smith, James Morrisset.....123 E. 53rd, Z22 ALR
Smith, James W.....1016 Fifth av., Z28 OP
Snyder, Eugene R.....7 W. 96th st. ALR
Sparer, William S.....50 E. 10th, Z3 ALR
Stark, Jessie B.....46 Park av., Z16 OP
Steinbach, Louis.....1882 Grand Concourse, Z57 OP
Steinberg, Martin R.....226 W. 70th st., Z23 ALR
Stovin, Joseph S.....151 Central Park West, Z23 ALR
Straatsma, Clarence R.....66 E. 79th, Z 21 ALR-PLS
Street, Alvin Murray.....745 5th av., Z22 ALR
Strickler, Joseph George.....200 W. 57th, Z19 ALR
Sturges, Leigh F.....121 E. 60th, Z22 ALR
Swick, David A.....30 W. 70th, Z23 OP
Syracuse, Victor R.....29 Washington Sq. W., Z11 OALR
Tickle, Thomas G.....30 E. 40th st., Z16 ALR
Town, Arno E.....140 E. 54th st. OP
Troncoso, Manuel U.....500 West End av., Z24 OP
Turner, Oliver W.....155 E. 34th st., Z16 OALR
Tusak, E. A.....115 E. 90th, Z28 OP
Vogel, Felix P. S.....1749 Grand Concourse, Z53 ALR
Watnick, Joseph Louis.....10 W. 96th, Z25 ALR
Webster, David H.....140 E. 54th, Z22 OP
Wexler, David.....103 E. 86th, Z28 OP
Wheeler, Maynard C.....30 W. 59th, Z19 OP
White, Francis W.....471 Park av., Z22 ALR

NEW YORK — Continued

White, James W.....15 Park av., Z16 OP
Wiener, Alfred.....550 Park av., Z21 OALR
Wincor, Henry G.....1882 Grand Concourse, Z57 OP
Woodman, DeGraaf.....156 E. 37th, Z16 ALR
Zuckerman, Joshua.....875 Park av., Z21 OP

NIAGARA FALLS
Goetzman, Arthur C.....308 United Office bldg. OP
Price, Norman W.
Hyde Park Blvd. & Lewiston Rd., Route No. 47 OALR
Rooker, A. M.....United bldg. ALR
Walker, Oliver Frank.....2873 Lewiston road OALR

NYACK
Theis, Franklyn B.....209 S. Broadway ALR

OLEAN
Moore, Ellis Columbus.....Nat'l Bank bldg. ALR
Mountain, Edward R., Capt. (M.C.)..128 S. Union st. ALR

ONEIDA
Crockett, R. L.....112 Farrier av. OP

ONEONTA
Hall, Edwin P.....76 Chestnut ALR

POUGHKEEPSIE
Miller, Sidney N.....113 Hooker av. ALR
Ostrow, Irving.....41 Hooker av. ALR
Voorhees, Earle W.....8 Garfield place ALR

QUEENS VILLAGE
Pauley, Gerald E.....9460-220 St. ALR
Roemaet, Charles M.....9404 207 st., Z8 ALR

ROCHESTER
Arnold, Ralph A., Capt. (M.C.).....60 Hollister St. Z5 ALR
Avery, Elroy J.....11 N. Goodman, Z7 ALR
Barber F.....75 S. Fitzhugh, Z8 OP
Clark, L. H.....887 Monroe av., Z7 OALR
Elliott, Raymond E.....2150 St. Paul st., Z5 ALR
Fischer, Abraham.....Mercantile bldg., Z4 OP
Gipner, J. F.....Medical Arts bldg., Z7 OP
Gorin, Meyer.....35 Chestnut st., Z4 ALR
Hilleman, George A.....267 Alexander, Z7 ALR
Honiss, John Ralph.....277 Alexander, Z7 ALR
Jones, Leonard W.....16 N. Goodman, Z7 OALR
Kennedy, Eldred Weston....Gas and Electric bldg., Z4 OP
Lerner, Macy Levi.....332 Park av., Z7 OP
Lowy, Karl.....35 Chestnut st. ALR
McDowell, N. D.....275 Alexander, Z7 OALR
Morris, A. G.....Medical Arts bldg., Z7 ALR
Nacey, Lawrence J.....221 Alexander ALR
Nash, C. Stewart.....277 Alexander, Z7 ALR
O'Brien, Elmer W.....5 N. Goodman, Z7 ALR
Pearson, Ovid .....277 Alexander st. OALR
Shapero, I. M.....289 Alexander, Z7 OALR
Snell, Albert C.....53 S. Fitzhugh, Z4 OP
Sullivan, Charles T.....277 Alexander, Z7 OP
Trainor, George M.....277 Alexander st., Z7 ALR

ROCKVILLE CENTER, L. I.
Donlon, John J.....141 Hempstead av. ALR
Goldman, A. Milton.....1 N. Village av. OP
Preefer, Charles Joseph.....195 Hempstead av. OP

ROME
Valone, Frank H.....107 W. Court ALR

RYE
Carroll, Frank D.....Blind Brook Lodge OP
Peterson, N. Vern.....Highland Hall ALR

ST. ALBANS, L. I.
Sudranski, Herbert F., Lt. (M.C.), USNR.
U. S. Naval Hospital OP
Weiss, J. Allan, Comdr. (M.C.)....U. S. Naval Hospital ALR

SAMPSON
Edmunds, Stanley L., Lt. Comdr. (M.C.), USN.
U. S. Naval Hospital ALR

SARANAC LAKE
Beck, Robert J.....105 Main OP
Wilson, George E.....108 Main ALR

SARATOGA SPRINGS
Goodfellow, Thomas J.....Arcade bldg. OALR

SCARSDALE
Ryan, Edward P., Lt. Comdr. (M.C.), USNR.
18 Fairview rd. OP

SCHENECTADY
Furlong, Frank C.....713 Union st. ALR
Gulick, John Duncan.....704 Union, Z5 ALR
Ostrom, William C.....1350 Union, Z8 OP
Sitney, Julian J.,
c/o M. D. Sitney, 1298 Parkwood blvd., Z8 OP

STATEN ISLAND
DeVoe, Arthur Gerard, Major (M.C.), Halloran Gen. Hosp. OP
Griffey, Walter P.....U. S. Marine Hospital OP
Kahn, K. M., Lt. Col. (M.C.), Halloran General Hospital ALR
Lynch, Joseph Sidney, Major (M.C.), Halloran Gen. Hosp. OP
Seligman, Albert E.....41 Forest av., Z1 ALR

SYRACUSE
Blaisdell, Irl Hazard.....Medical Arts bldg., Z2 ALR
Brown, Mortimer G.....State Tower bldg., Z2 ALR
Brust, H. O.....820 S. Crouse av., Z1 ALR
Cahill, James F.....428 S. Salina, Z2 OP
Cave, Linus S.....State Tower bldg., Z2 ALR
Dickinson, William G.....State Tower bldg., Z2 OP
Doust, Alfred W., Major (M.C.).....965 Lancaster av. ALR
Gillette, D. F.....State Tower bldg., Z2 OP
Hoople, Gordon D.....Medical Arts bldg. ALR
Joy, Harold Henry.....State Tower bldg., Z2 OP
Katz, I. H.....713 E. Genesee st. OP
Kauffman, A. B.....Chimes bldg., Z2 ALR
Kline, H. G.....State Tower bldg., Z2 ALR
Moore, Donald E.....713 Genesee st., Z2 OP
Moore, Roy S.....State Tower bldg., Z2 ALR
O'Connor, Frederick J.....State Tower bldg., Z2 ALR
Rubenstein, A. H.....Medical Arts bldg., Z2 ALR
Webster, F. R.....State Tower bldg., Z2 OP

TARRYTOWN
Newlands, W. Alexander.....19 S. Broadway ALR

TROY
Sulzman, Frank Malcolm.....1831 Fifth av. OALR
Sulzman, John H., Lt. Comdr. (M.C.), USNR.
1831 Fifth av. OALR

NEW YORK — Continued

UTICA
- Beattie, William.....5 Derbyshire Place, Z3 OALR
- Cranston, Wm. J., Jr., Major (M.C.), Rhoads General Hospital, Z5 OP
- Farrell, James I.....250 Genesee, Z2 OP
- Girard, Paul H.....258 Genesee st. OP
- Gruppe, Karl.....258 Genesee st., Z2 ALR
- Jones, Fred G.....258 Genesee, Z2 ALR

WARSAW
- Nairn, George Waverly, Wyoming County Community Hospital ALR

WATERTOWN
- Atkinson, John H.....168-70 Sterling ALR
- Atkinson, Walter S.....129 Clinton OP
- Henderson, L. E.....129 Clinton OP
- McAskill, James E.....Woolworth bldg. ALR

WHITE PLAINS
- Emery, John R.....Medical Centre ALR
- Knight, Granville F.....Medical Centre bldg. ALR
- Matusow, Meyer.....175 Main st. OP
- Moriarty, Richard W.....3 Mamaroneck road OALR
- Wood, Edward Christopher, Lt. Col. (M.C.) 175 Main St. OP

WOODHAVEN, L. I.
- Frothingham, Edward.....8626 94th st., Z21 OALR
- Stack, James Edward.....8838 Woodhaven blvd., Z21 ALR

YONKERS
- Bullwinkel, H. Griffin, Capt. (M.C.), USNR, Glenwood Gardens, Z2 ALR
- Fitzgerald, Wm. W.....27 Ludlow OP
- Petti, George H.....4 Berkeley av., Z5 ALR
- Wolcott, Charles C.....27 Ludlow ALR

NORTH CAROLINA

ASHEVILLE
- Briggs, Henry Harrison, Jr., Lt. Col. (M.C.), 20 Buena Vista rd. OP
- Chapman, E. J.....331 Haywood bldg. ALR
- McGowan, Joseph Francis.....New Medical bldg. ALR
- Swann, Cecil C.....Flat Iron bldg. ALR
- Weizenblatt, Sprinza.....709 New Medical bldg. OP

CAMP BUTNER
- Walker, Glenn L., Lt. Col. (M.C.), U. S. Army General Hospital OP

CHARLOTTE
- Foster, Clarence Batchelder.....520 Professional bldg. OP
- Johnston, James G.....1520 E. 4th, Z4 OP
- Motley, Fred E.....106 W. 7th, Z2 ALR
- Neblett, Herbert Clarence.....401 N. Tryon, Z2 OP
- Peeler, C. N.....106 W. 7th, Z2 OALR
- Sloan, Henry L.....106 W. 7th, Z2 OP
- Smith, Franklin C.....2219 Radcliff av., Z4 OP
- Whisnant, A. M.....RFD No. 2, Park rd. OALR

CHERRY POINT
- Northington, Page, Capt. (M.C.), U. S. Marine Corps Air Station ALR

DURHAM
- Anderson, William Banks.....Duke Hospital OALR
- Eagle, Watt Weems.....Duke Hospital ALR
- Ferguson, George Burton.....1110 West Main ALR
- Kerns, Thomas C.....1110 W. Main ALR
- McPherson, Samuel D.....McPherson Hospital ALR

FT. BRAGG
- LaClair, Charles Huston, Jr., Lt. Col. (M.C.), Regional Hospital No. 2 ALR

GOLDSBORO
- Lyman, Edward H., Capt. (M.C.), Sq. B, 123 Base Unit, Seymour Johnson Field ALR

GREENSBORO
- Strickland, Horace G.....Jefferson bldg. OP
- Taylor, Shahane R.....Jefferson bldg. ALR
- Wolfe, Hugh C.....102 N. Elm ALR

HENDERSON
- White, Clarence Hunt*.....Box 257 ALR

HIGH POINT
- Leath, Maclean B.....511 N. Main st. ALR

KINSTON
- Peery, Vance Price.....Kinston Clinic ALR

LEXINGTON
- Leonard, Jacob C., Jr.....3½ E. First st. ALR

MORGANTON
- Billings, Gilbert M.....110 S. Sterling ALR

RALEIGH
- Hicks, Vonnie Monroe.....Professional bldg. OP
- Powers, Frank P.....Professional bldg. ALR

SALISBURY
- McCutchan, Frank.....100 W. Innes ALR

WINSTON-SALEM
- Bradford, George Edwin.....Nissen bldg. ALR
- Combs, Fielding.....Nissen bldg., Z3 ALR
- Davis, Thomas W.....O'Hanlon bldg., Z3 OALR
- Harrill, James Albert.....Bowman Gray School of Med. ALR
- Speas, William Paul.....Reynolds bldg., Z3 OP

NORTH DAKOTA

BISMARCK
- Buckingham, Tracy W.....405 Broadway ALR
- Constans, George Maurice.....Clinic bldg. OP
- Diven, Wilbur Lester.....406½ Main ALR
- Rosenberger, Henry P.....221 Fifth ALR

FARGO
- Foster, George C.....Fargo Clinic OALR
- Hawn, Hugh W.....807 Broadway, Fargo Clinic OP
- Larson, G. Arthur.....608 Black bldg. OALR
- Rindlaub, Elizabeth P.....321 Eighth South OALR
- Rindlaub, John H.....321 Eighth South OALR

NORTH DAKOTA—Continued

GRAND FORKS

Alger, L. James.....Box 328 OP
Jensen, August F.....1119 Cottonwood st. OP
Youngs, Nelson A.....Grand Forks Clinic ALR

MINOT

Combs, Arnold B.....Northwest Clinic ALR
Lampert, Max T.....First Nat'l bldg. ALR
McCannel, Archie D.
Corner 1st st., S. W. and Central av. OALR

OHIO

AKRON

Arbuckle, David S.....Akron Savings & Loan bldg., Z8 OALR
Brumbaugh, John D.....75 North Wheaton road, Z13 OALR
Damitz, John Cyril.....2nd National Bank bldg. OALR
Fowler, Floyd J.....Akron Clinic 513 W. Market st., Z3 ALR
Grimmett, Roger Skelton
406 Akron Savings & Loan Building, Z8 ALR
Mathias, Daniel F.
819 First Central Tower bldg., Z8 ALR
Parry, Thayer L.....301 Ohio bldg., Z8 OALR
Rubin, Herman G.....159 S. Main st. ALR
Springer, James E.....409 Peoples Bank bldg., Z8 ALR

ALLIANCE

King, George L.....537 E. Market St. OP

ASHTABULA

O'Connor, Timothy Francis.....4684 Main av. ALR
Streicher, Carl J.....217 Park Place OP

BELLEFONTAINE

Harbert, John P.....135 N. Main OALR

CAMBRIDGE

Bornstein, Max, Major (M.C.), Fletcher General Hospital ALR

CANTON

Brandon, James R.....800 First Nat'l Bank bldg. ALR
Hoffmann, John N.....Brant bldg., Z2 ALR
King, Clair B.....1926 Market av. N. OP
Rosedale, Raymond Samuel....610 N. Market av., Z2 ALR
Schirack, Clarence J.....817 Cleveland av. N. W., Z3 ALR
Toot, Joseph F.....First Nat'l Bank bldg., Z2 OP
Underwood, John H.....Brant bldg., Z2 ALR
Weaver, Homer V.....625 Cleveland av. N. W., Z3 ALR

CHILLICOTHE

Quinn, Robert E.....126 W. Main St. OP
Shepard, Emerson P.....72 West Second ALR

CINCINNNATI

Abrahamson, Ira A.....925 Union Trust bldg., Z2 OP
Asbury, Mary K.....3549 Holly Lane, Z8 OP
Beyer, A. G.....Carew Tower, Z2 OALR
Brown, Albert Louis.....Carew Tower, Z2 OP
Finney, Nancy E.....2453 Gilbert av., Z6 OP
Fischbach, Victor W.....Union Central bldg., Z2 ALR
Goodyear, H. M.....Doctors bldg., Z2 ALR
Haggart, Harry H.....920 Carew Tower, Z2 ALR
Hans, C. L.....Provident Bank bldg., Z2 OP
Heidelman, George.....Union Central bldg., Z2 OP
Hendricks, Louis J.....Carew Tower, Z2 OP
Hofling, Charles A.....707 Race, Z2 OP
Hofmann, Albert P.....630 Vine, Z2 ALR
Howard, Robert E.....Union Central bldg., Z2 ALR
Hyman, Morris, Capt. (M.C.), 0-335504,
1139 Towanda Terrace, Z16 ALR
Levin, Abram Ascher.....Carew Tower, Z2 OP
Lowenthal, Gerson.....277 Doctors' bldg., Z2 ALR
Lyle, Donald J.....Carew Tower, Z2 OP
Miller, Ralph H.,
6257 Rogers Park Place, Pleasant Ridge, Z13 OP
Mithoefer, W.....Carew Tower, Z2 ALR
Portnoy, Samuel H.....19 Garfield Place, Z2 ALR
Ray, Victor, Jr.....Carew Tower, Z2 OP
Reid, H. W.....Union Central bldg., Z2 OF
Safer, Louis A.....Provident Bank bldg., Z2 ALR
Sakler, Barnet R...Capt. (M.C.), 695 N. Crescent, Z29 OP
Schrimpf, Cyril Edward.....229 Doctors' bldg., OP
Seltz, Samuel.....Doctors bldg., Z2 ALR
Siegel, Francis X.....Union Central bldg., Z2 OALR
Stanbery, Henry.....Doctors bldg., Z2 OP
Stewart, T. M.....814 Blair av. Z29 OP
Stitt, H. L.....Doctors bldg., Z2 ALR
Stoll, Karl Ludwig.....19 W. 7th, Z2 OP
Swing, Frank U.....Doctors bldg., Z2 ALR
Thompson, E. H.....19 W. 7th, Z2 OALR
Woodward, Paul Maxwell.....4140 Hamilton av., Z23 ALR

CLEVELAND

Adelstein, Fred.....Rose bldg., Z15 ALR
Allen, Donald Gray.....1021 Prospect av., Z15 OP
Berns, Charles, Lt. Col. (M.C.)..11408 Whitmore av. Z8 ALR
Bruner, Abram Breneman.....Guardian bldg., Z14 OP
Bruner, William E.....Guardian bldg., Z14 OP
Bucher, Walter M.....4187 Pearl road, Z9 ALR
Burke, T. A.....Rose bldg., Z15 OALR
Chamberlain, Webb Parks.....7405 Detroit av., Z2 OP
Chamberlain, Webb., Jr., Major (M.C.),
7405 Detroit av., Z2 OP
Collins, James T.....Republic bldg., Z15 ALR
Deeton, William L.....18125 Shaker square, Z20 ALR
Dixon, Fred Willis.....Rose bldg., Z15 ALR
Engler, Clarence William.....2323 Prospect av., Z15 ALR
Forsythe, S. T.....Rose bldg., Z15 OALR
Freeman, Marvin S., Capt. (M.C.), 0489705,
17401 Edgewater dr., Z7 ALR
Garrett, Ernest W.....Hanna bldg., Z15 ALR
Hamilton, Howard Eugene.....10515 Carnegie av., Z6 ALR
Harris, Harold Earl.....Cleveland Clinic, Z6 ALR
Jackson, Clarence C. R.....2065 Adelbert rd., Z6 ALR
Jacoby, Mark W.....Hanna bldg., Z15 OP
Johnson, Lorand V. .....10515 Carnegie, Z6 OP
Kennedy, Roscoe J.
2020 E. 93rd st., c/o Cleveland Clinic, Z6 OP
Keyes, John E. L., Lt. Col. (M.C.),
22199 McCauley rd., Shaker Heights Z22 OP
Kinney, Charles Ed.....10515 Carnegie av., Z6 ALR
Large, S. H.....170 Eddy rd. ALR
Lemel, Samuel L.....1030 Euclid av., Z15 ALR
Loeb, Wm. J.....1125 Schofield bldg., Z15 ALR
McCall, J. W.....610 Rose bldg., Z15 ALR
McDonald, C. L.....Rose bldg., Z15 OALR
Metz, Roy B.....1422 Euclid av., Z15 OP
Mitchell, Horace E.....14805 Detroit av., Z7 ALR
Monson, S. H.....B. F. Keith bldg., Z15 OALR
Moore, Paul G.....Republic bldg., Z15 OP
Moore, Paul M., Jr.....Cleveland Clinic, Z6 ALR

OHIO — Continued

Motto, M. Paul.....Rose bldg., Z15 OP
Mussun, W. G.....Rose bldg., Z15 ALR
Nelson, Charles F.....Schofield bldg., Z15 OALR
Phelan, Harold V.....Rose bldg., Z15 OP
Pitkin, C. E.....Carnegie Medical bldg., Z6 ALR
Quittner, S. S.....10515 Carnegie av., Z6 OALR
Rieger, W. H.....Hanna bldg., Z15 ALR
Rosenberger, Harry Clifford.....10515 Carnegie av., Z6 ALR
Ruedemann, Albert D.....Cleveland Clinic, Z6 OP
Ryall, George W.
17010 Kinsman road, Shaker Heights, Z20 ALR
Schwarz, Gerald T.....10515 Carnegie av., Z6 OP
Shiras, Howard H.....13302 Cormere av., Z20 OP
Somberg, Joseph S.....406 Bulkley, Z15 OP
Stoffregen, Charles Henry.....10515 Carnegie av., Z6 ALR
Stotter, Arthur L.....1148 Euclid av., Z15 OALR
Strong, James Craig, Jr., Capt. (M.C.),
Crile General Hospital, Parma OP
Struble, Gilbert C., Lt. Col. (M.C.),
Crile General Hospital, Z9 OP
Thoburn, Thomas W.....1020 Huron road., Z15 ALR
Thomas, Charles I.....10515 Carnegie av., Z6 OP
Tuckerman, W. H.....1020 Prospect av., Z15 OALR
Weidlein, Ivan F.....10515 Carnegie av., Z6 ALR
Weinberg, Herman Charles.....10515 Carnegie av., Z6 OP
Wolpaw, Benjamin J.....2323 Prospect av. OP

CLEVELAND HEIGHTS

Marks, Moses I.....2832 Washington blvd. ALR

COLUMBUS

Beatty, H. G.....150 E. Broad, Z15 ALR-PI S
Brown, John E. .....135 Preston rd., Z9 OALR
Clark, I. G.....188 E. State, Z15 OALR
Culler, Arthur M.....150 E. Broad st., Z15 OP
Davies, Morgan C.....269 E. State, Z15 OP
Davis, William C.....150 E. Broad, Z15 OP
Emswiler, Herbert D.....370 E. Town, Z15 ALR
Hauer, A. M.....350 E. State, Z15 ALR
Hearn, Paul P., Capt. (M.C.), ...701 Sheridan, Z4 ALR
Johnson, David M.....327 E. State St. ALR
Means, R. G.....40 S. Third, Z15 ALR
Odom, Stanley G.
Col. (M.C.), Station Hospital, Fort Hayes, Z18 OALR
Perry, Claude S.....40 S. 3rd st. OP
Postle, C. D.....240 E. State, Z15 ALR
Prout, A. W.....380 E. Town, Z15 OALR
Sage, Harry M.....2194 N. Parkway Dr., Z8 OP
Sanor, Daniel G., Jr.....206 E. State, Z15 ALR
Silbernagel, C. E.....247 E. State, Z15 OALR
Stoutenborough, William A.....21 E. State, Z15 OALR
Thomas, Francis W.....327 E. State, Z15 OALR
Timberman, Andrew.....91 Hamilton Park, Z3 OALR
Troutman, Erwin W.....21 E. State, Z15 ALR

DAYTON

Beavis, James O.....900 Fidelity Medical bldg., Z2 ALR
Binkley, Roy S.....Fidelity bldg., Z2 OALR
Boswell, Robert Echo.....Fidelity bldg., Z2 ALR
Clark, Willard C., Lt. Comdr. (M.C.) USNR
333 Rockwood Ave. OP
Dutrow, H. V.....426 Kramer rd. OALR
Harris, H. B.....Fidelity Medical bldg., Z2 OALR
Insel, Herman Herbert....770 Fidelity Medical Bldg. Z2 OALR
Kilbourne, P. H.....Fidelity Medical bldg., Z2 OALR
Mosher, Henry A., Major (M.C.), 01693289,
58 Cambridge av., Z6 OP
Thomas, Edward Robert.....60 Wyoming, Z9 OP

ELYRIA

Meredith, Lawrence Cornelius.....124 Middle av. ALR

FAIRFIELD

Craddock, Wm. H.....Lt. Col. (M.C.), Patterson Field ALR
Cunningham, John C.....Capt. (M.C.), Patterson Field OP
Trapasso, Anthony J., Capt. (M.C.), 0-52799,
Regional Hosp., Patterson Field ALR

FINDLAY

Mowry, Ben.....First Nat'l Bank bldg. ALR

FREMONT

Riddell, Malcolm M.....112½ Front ALR

GALLIPOLIS

Martin, N. A.....Gallipolis Clinic ALR

LAKEWOOD

Ellenberger, Carl.....14805 Detroit av., Z7 OP
Frackelton, Ralph James.....15701 Detroit av. ALR
McGannon, Francis Lambert.....14900 Detroit av. ALR
Merica, F. W.....14805 Detroit av., Z7 ALR
Miller, G. Leslie.....14805 Detroit av., Z7 OP

LEXINGTON

Oakes, M. C., Major (M.C.)..... OP

LIMA

Herr, Albert H.....129 N. Elizabeth st. ALR
Knisely, Alan DeG.....722 Nat. Bank bldg. ALR
Stueber, F. G. .....209 W. North st. OALR
Stueber, Paul J.....209 W. North OALR

LORAIN

Monosmith, O. B.....O. P. S. bldg. OALR
Stephan, Lewis B.....1326 Second st. OP

MANSFIELD

Garber, J. M.....14 N. Mulberry OALR
Smedal, Erling A.....456 W. Park av. OP
Wise, Ralph C.....News bldg. OALR

MARIETTA

Sauer, W. W.....231 Third OALR

MARION

Brickley, Daniel W.....Uhler-Phillips bldg. OALR

MASSILLON

Dowling, James Reginald.....508 Ohio Merchants bldg. ALR
Stewart, James V.....1st Nat'l Bank bldg. ALR

MIDDLETOWN

Williams, Walton H.....Castell bldg. OALR

MONROEVILLE

Bolman, Harold R.....6½ S. Main OP

PAINESVILLE

Hedlund, G. O.....616 Mentor av. ALR

OHIO — Continued

SALEM
King, Lowell W.....470 E. State ALR

SANDUSKY
Kramer, Julius C.....409 Columbus av. ALR

SHAKER HEIGHTS
Phillips, Josephine D.....16180 Parkland drive, Z20 OP

SIDNEY
Alvis, Raymond W.....Ohio bldg. OALR

SPRINGFIELD
Burgman, James E.....8 W. Main ALR
Easton, J. C.....First Nat'l Bank bldg. OALR
Ernsting, Harry Carl.....8 W. Main st. OP
Hogue, D. W.....34 W. High OALR
Reuter, Carl H.....First Nat'l Bank bldg. OP
Yinger, Starling C.....First Nat'l Bank bldg. ALR

STEUBENVILLE
Quinn, John L.....401 Market ALR

TOLEDO
Alderdyce, William W.....518 Madison av., Z4 OALR
Boice, Ralph E.....316 Michigan, Z2 OP
Cooper, James H.....316 Michigan st., Z2 OP
Denyes, Gerald Foster.....316 Michigan, Z2 ALR
King, Charles R.....Spitzer bldg., Z4 OALR
Lukens, Charles.....316 Michigan Z2 OALR
Lukens, John A.....316 Michigan, Z2 ALR
Minns, John Edward.....316 Michigan, Z2 ALR
Nippe, Leonard.....316 Michigan, Z2 OALR
Patterson, Sam H.....125-15th st., Z2 OP
Ravin, Louis C.....316 Michigan st., Z2 OP
Skow, John D.....2001 Collingwood av., Z2 OP
Steinfeld, A. L.....125 Fifteenth, Z2 OALR
Winger, Ira B.....709 Madison av., Z2 OALR

VAN WERT
Edwards, Gwilym Austin.....Home Guards bldg. ALR
Edwards, Stephen A.....Home Guards bldg. ALR

WARREN
Beale, Allen W.....308 N. Park av. ALR
Stimson, George W.....580 Perkins drive N. W. OALR

WILLOUGHBY
Waugh, J. M.....Ridge road, R. F. D. No. 1 OALR

XENIA
Ray, Harold E.....135 E. Main st. OP

YOUNGSTOWN
Evans, Wm. H.....291 Park av. ALR
Goldcamp, Edward C.....Dollar Bank bldg., Z3 ALR
Goldcamp, John S., 810 Dollar Sav. & Trust Co. bldg., Z3 OP
Goodwin, Vernon L.....509 Central Tower, Z3 ALR
Hall, Raymond A.....514 Home Savings & Loan bldg. ALR
Myers, Stanley A.....810 Dollar Bank bldg. ALR
Odom, Robert E.....378 Lora av., Z4 ALR
Piercy, Frederick F.....Home Savings & Loan bldg., Z3 ALR
Walker, Orville J.....Home Savings & Loan bldg., Z3 ALR
Wenaas, Elmer J.....24 Wick av. GP

ZANESVILLE
Culbertson, L. R.....Masonic Temple OALR

OKLAHOMA

ADA
Peterson, William G.....106 E. 13th ALR

CHICKASHA
Boyd, Harold M. E., Capt. (M.C.), Borden Gen. Hospital ALR
Brickley, Daniel W., Jr., Capt. (M.C.), Borden General Hospital ALR
Stroud, Sanders K., Major (M.C.), Borden Gen. Hospital OP
Work, Walter P., Capt. (M.C.), Borden General Hospital ALR

MUSKOGEE
Coachman, Edwin H.....Manhattan bldg. ALR
Fullenwider, C. M.....Barnes bldg. OALR

FORT SILL
Battles, Newell H., Capt. (M.C.), Cantonment Section, Station Hospital OALR

OKLAHOMA CITY
Bonham, William L.....Medical Arts bldg., Z2 ALR
Cooper, F. Maxey.....Medical Arts bldg., Z2 OP
Coston, Tullos O.....Medical Arts bldg., Z2 OP
Emenhiser, Lee K.....Medical Arts bldg. ALR
Ford, Harry C.....2814 N. Walker ALR
McHenry, L. Chester.....Medical Arts bldg., Z2 ALR
Macdonald, J. C.....301 N. W. 12th, Z3 ALR
Randel, Harvey O.....Medical Arts bldg., Z2 OP
Royer, Charles A.....3541 N.W. 24th st. OP
Wails, Theodore G.....Medical Arts bldg., Z2 ALR
Watson, O. Alton.....1200 N. Walker, Z3 ALR

TULSA
Braswell, James C.....Medical Arts bldg., Z3 OALR
Cook, W. Albert.....Medical Arts bldg., Z3 OALR
Davis, Arthur Henry.....Medical Arts bldg., Z3 ALR
Haralson, Charles Herndon.....Medical Arts bldg., Z3 OP
Huber, Walter A.....Medical Arts bldg., Z3 OP
Mishler, D. L.....604 S. Cincinnati av., Z3 ALR
Smith, Ruric N.....Medical Arts bldg., Z3 ALR
Stuard, Charles G.....310 Medical Arts bldg., Z3 OP

OREGON

ASTORIA
Kirch, Walter, Lt. Comdr. (M.C.)..U. S. Naval Hospital ALR
Spalding, Lansford M.....185 Fourteenth ALR

BAKER
Gordon, Glenn G.....Alexander bldg. ALR

EUGENE
Norton, Arthur H. .....1162 Willamette OP

LA GRANDE
Bouvy, L. B.....Foley bldg. OALR

MEDFORD
Young, Clarence M. .....P. O. Box 1506 ALR

OSWEGO
Adix, H. Victor, Jr., Comdr. (M.C.), USNR, 252 Lake Grove ALR

PORTLAND
Bailey, Paul.....1515 S. W. Myrtle st., Z1 ALR
Bouvy, Harry M., 800 Pittock blk., 10th & Washington OALR

OREGON—Continued

Boyden, Guy L.....1735 N. Wheeler, Z12 ALR
Browning, Andrew J.....Mayer bldg., Z5 OP
Carruth, Howard Ernest.....Medical Arts bldg., Z5 OALR
Davis, Ralph F.....Medical Arts bldg., Z5 OALR
Dykman, Augustus Bartram.....833 S. W. 11th, Z5 OP
Fenton, Ralph A.....Medical Arts bldg., Z5 OALR
Gaston, Ira E. .....Medical-Dental bldg., Z5 OALR
Henton, George E.....812 S. W. Washington, Z5 OP
Henton, George H.....812 S. W. Washington st., Z5 OP
Jones, Lester T.....1020 S. W. Taylor st., Z5 OALR
Jordan, Lewis W. ..... Medical Arts bldg., Z5 ALR
Karkeet, Robert B.....833 S. W. 11th av., Z5 ALR
Kiehle, Frederick A.....1020 Southwest Taylor, Z5 OP
Kistner, F. B.....Mayer bldg., Z5 ALR
Larsell, Olaf., Ph.D., Sc.D.,.....University of Oregon
Lucas, Harold R.....Medical-Dental bldg., Z5 OALR
Lupton, Irving Martin.....Medical Arts bldg., Z5 OALR
Neely, Paul T.....Medical Arts bldg., Z5 ALR
Petheram, C. C.....Medical Arts bldg., Z5 ALR
Simons, Max.....2580 N. W. Mildred st., Z10 ALR
Swan, Kenneth C., Dep't of Oph.,
University of Oregon Med. Sch., Marquam Hill rd., OP
Taylor, E. Merle.....Medical Arts bldg., Z5 OP
Ten Eyck, Thomas G.....808 N. E. 39th st., Z13 ALR
Weeks, John E. (Retired).....360 Edgecliff road, Z1 OP

SALEM
Clement, L. O.....Guardian bldg. OALR

WECOMA
Cutler, Franklin E..... ALR

PENNSYLVANIA

ALIQUIPPA
Thel, Henry C.....387 Franklin ALR

ALLENTOWN
Hertz, William J.....125 N. 8th ALR
Phillips, Samuel A.....137 N. 8th OP
Rothenberger, Marvin K.....206 N. 8th st. ALR
Uhler, Ella M.....104 North 8th st. OP
Uhler, S. Mann.....104 N. 8th ALR

ALTOONA
Buzzard, Josiah F.....1110 Thirteenth av. OALR
Glover, Lewis P.....1200 Fourteenth av. OP

ARDMORE
Bostwick, D. S.....106 Linwood av. ALR
Furlong, Thomas F., Jr.....Times Medical bldg. ALR
Longaker, Edwin P.....41 E. Montgomery av. ALR

BEAVER
Crumrine, Norman Ross.....595 Third OALR

BEAVER FALLS
Baldwin, Thomas M.....222 Brodhead bldg. ALR
Reed, Elmer McCready, Capt. (M.C.), 2835 4th ave ALR

BETHLEHEM
Chase, W. D.....230 E. Broad ALR
James, James E.....128 W. Fourth st. ALR

BLOOMSBURG
Moser, G. P., Major (M.C.), 0-283723...455 Market st. ALR

BRYN MAWR
McAndrews, Leo F.....Mermont-Plaza OP
Scarlett, Hunter W.....825 Montgomery av. OP
Snyder, George Gordon.....Mermont Apts ALR

BUTLER
Goehring, Donald Everett.....Butler S. & T. bldg. ALR
Hunt, Guy Anderson.....Butler Co. Nat'l Bank bldg. OP
May, Frederick T., Maj. (M.C.), Deshon General Hospital OP
Truex, Edward H. Jr., Maj. (M.C.),
Deshon General Hospital ALR

CARBONDALE
Marmelstein, Maurice.....1st Nat'l Bank bldg. OP

CARLISLE
George, Forney P.....118 S. Hanover st. ALR
Stoner, Donald D.....156 W. Pomfret st. ALR

CHAMBERSBURG
Himelfarb, H. M., Capt. (M.C.).....R.F.D. No. 4 ALR

CHARLEROI
Rowland, Ivo E.....5th and McKean ALR

CHESTER
Cross, G. H.....525 Welsh OP
Hayes, Merrill B.....710 Madison st. ALR

CLEARFIELD
Shaffer, Harry Gard.....225 Cherry ALR

CONNELLSVILLE
Harrison, Fred H.....Second Nat'l Bank bldg. OALR
McLellan, Thomas G.....Second Nat'l Bank bldg. OP

DANVILLE
Davison, Francis Wells.....Geisinger Hospital ALR
Jacobs, Clyde Hillock.....Geisinger Memorial Hosp. OP
Nebinger, Reid.....16 W. Market ALR

DU BOIS
Beals, C. Wearne.....28 W. Scribner av. ALR
Tyson, John McClure.....3 S. Brady ALR

EASTON
Bloom, C. Hugh.....65 N. Third ALR

ERIE
Delaney, James H.....138 W. 9th OP
Donovan, John E.....265 W. 10th st. ALR
Fust, John H.....231 W. 7th OALR
Jackson, J. D.....232 W. 8th OALR
Russell, J. A. Merle.....813 Sassafras OALR
Schlindwein, G. William.....138 W. 9th OALR
Simmons, J. Thomas.....316 W. 10th st. OP

FRANKLIN
Jobson, G. B.....West Park and Liberty OALR-PIS
Nordstrom, Chester Albert.....Exchange Bank bldg. ALR

GREENSBURG
Fairing, John W..... ..122 N. Main OALR
McKee, Claud W.....Coulter bldg. OALR

GREENVILLE
Jamison, Edgar L.....19 Louisa av. ALR

PENNSYLVANIA — Continued

HANOVER
Wetzel, Roy J.....301 Broadway ALR

HARRISBURG
Dailey, Gilbert L.....618 N. 3rd OALR
Gracey, George F.....209 State OALR
Smith, Jay D.....813 N. 2nd st. ALR
Zimmerman, J. Landis.....207 State OP

HAZLETON
Reiche, O. C.....Markle Bank bldg. OP

HUNTINGDON
Hunt, William T., Jr.....514 Penn OALR

JENKINTOWN
Cornelius, C. E., Comdr. (M.C.).....119 Summit av. ALR
Follweiler, Frank L.....423 York rd. ALR
Kauffman, M. Luther.....Medical Arts bldg. OP

JOHNSTOWN
Griffith, Harold M.....Johnstown Bank & Trust bldg. OP
Harris, C. M.....Johnstown Bank & Trust bldg. OALR
Hays, Charles E.....U. S. Bank bldg. ALR
McCloskey, Paul.....338 Locust ALR
Parker, Ray.....U. S. Bank bldg. ALR

LANCASTER
Fulton, Harry C.....339 N. Duke OP
Hutchison, Lloyd S.....235 Lancaster av. ALR
LeFevre, Willis H.....234 N. Duke ALR
Smith, Ernest Gerard.....339 N. Duke OP

LANSDOWNE
Krall, J. Thomas, Major (M.C.)....134 Lansdowne Court OP

LATROBE
Mather, Homer Raymond.....224 Depot st. ALR

LEBANON
Strickler, Alfred D.....26 N. 9th st. OP

LEWISTOWN
Allis, Paul M.....6 N. Brown ALR

McKEESPORT
Rittenhouse, Emory A.....1610 Baillie av. ALR

MAHANOY CITY
Ricchiuti, A. George.....226 W. Mahanoy av. ALR

MEADVILLE
Hazen, S. Frank.....231 Chestnut ALR

MEDIA
Lewis, Fielding O.....(Retired) ALR

MONESSEN
Gemmill, Walter D.....130 Seventh ALR

MT. LEBANON
Lanson, Freeman A.....646 Washington rd. ALR

NANTICOKE
Abbott, Albert J.....94 Prospect st. OP

NEW KENSINGTON
Steim, J. M.....First Nat'l Bank bldg. OP

NORRISTOWN
Beideman, Joseph Ellsworth..Montgomery Trust Arcade OP

OIL CITY
Magee, F. Earle.....222 Seneca ALR

PALMERTON
Kupp, John H.....582 Delaware av. ALR

PHILADELPHIA
Adler, Francis Heed.....313 S. 17th, Z3 OP
Annon, W. T.....285 S. 15th, Z2 ALR
Appleman, L. F.....308 S. 16th, Z2 OP
Baldwin, Gertrude W.....255 S. 17th st., Z3 OP
Balentine, P. L.....1524 Chestnut, Z2 OP
Batson, Oscar V.....133 S. 36 st., Z4 ALR
Berner, George Emil.....5430 Greene, Z44 OP
Bertolet, John Allen.....1530 Locust, Z2 ALR
Blair, Mortimer W.....N. E. cor. 20th and Chestnut, Z3 OP
Bricker, Sacks.....1101 W. Wyoming av., Z40 ALR
Bridgett, Frank Aloysius .....3332 Chestnut st., Z4 ALR
Briglia, Frank J.....819 Wharton, Z47 ALR
Brumm, Seth A.....Medical Arts bldg., Z3 OALR
Butt, Miriam M.....333 Seymore st., Z44 OP
Campbell, Edward H.
Spruce st. Medical bldg., 19th & Spruce sts., ALR
Carpenter, Chapin.....1930 Chestnut, Z3 OP
Clerf, Louis Henry.....1530 Locust, Z2 ALR
Coates, George M.....1721 Pine, Z3 ALR
Cohen, Herman B.....255 S. 17th, Z3 ALR
Cohen, Louis B.....1320 Arrott, Z24 OP
Cohen, Samuel.....Spruce St., Medical bldg., Z3 ALR-PIS
Cordray, David P., Comdr. (M.C.), USNR,
1912 Spruce st., Z3 ALR
Cowan, Alfred.....1930 Chestnut, Z3 OP
Cowan, Thomas H.....1930 Chestnut St. Z3 OP
Creighton, William J.....37 S. 20th, Z3 OP
Davis, T. Carroll.....3128 N. Broad, Z32 ALR
Davis, Warren B.....135 S. 18th, Z3 ALR-PI S
Deichler, L. Waller.....1930 Chestnut, Z3 OALR
Dickson, Robert L.....4803 Penn, Z24 ALR
Dintenfass, Henry.....1305 Spruce, Z7 ALR
Donnelly, Edward J.....1321 Spruce, Z7 OP
Dublin, George Joseph.....1930 Chestnut, Z3 OP
Elfman, Louis Kenneth.....6330 Lebanon av., Z31 ALR
Ellis, Van M.....1530 Locust st., Z2 OP
Ersner, Matthew S.....1915 Spruce, Z3 ALR
Fewell, A. G.....1924 Pine, Z3 OP
Finegan, James F., Lt. Comdr. (M.C.) USNR
U. S. Naval Hospital Z45 OP
Fox, C. Calvin.....1806 Spruce, Z3 ALR
Fry, W. E.....1819 Chestnut, Z3 OP
Gibson, Glen G.....255 S. 17th, Z3 OP
Gordon, William.....1721 Pine, Z3 ALR
Gouterman, Joseph I.....1930 Chestnut, Z44 OP
Gowens, Henry L. Jr.....2217 Delancey st., Z3 OP
Harkins, Herbert P.....1930 Chestnut st., Z3 ALR
Hawman, Erle G.....4051 N. Broad, Z40 OP
Heed, C. R.....1205 Spruce, Z7 OP
Hewson, William.....2031 Locust st., Z3 ALR
Hirst, Otto C.....255 S. 17th, Z3 ALR
Hitschler, William Jacob....8840 Germantown av., Z18 ALR
Hoffman, N. Fulmer, Jr.....2126 Spruce st., Z3 ALR
Houser, Karl M.....2035 Delancey st., Z3 ALR

PENNSYLVANIA — Continued

Hunter, Robert John.....928 N. 63rd st., Z31 ALR
Husik, D. N.....1820 Spruce, Z3 ALR
Ivy, Robert H.....1930 Chestnut, Z3 ALR-PIS
Jackson, Chevalier.....255 S. 17th, Z3 L
Jackson, Chevalier L.....255 S. 17th, Z3 L
Kasper, Kelvin A.....135 S. 18th, Z3 ALR
Katz, Harry Kolman.....1206 Cottman st., Z11 OP
Kaufman, A. Spencer.....1923 Spruce, Z3 ALR
Kelly, George F. J.....37 S. 20th, Z3 OP
Krewson, William Egbert, 3rd.....1930 Chestnut, Z3 OP
Lane, Franklin F., Capt. (M.C.), USN,
Walnut Park Plaza, 63rd & Walnut sts., OALR
Lawrence, Granville A.....Medical Arts bldg., Z3 OP
Lehrfeld, Louis.....1321 Spruce, Z7 OP
Leopold, Irving H.
University Hospital, University of Pennsylvania, Z4 OP
Lillie, W. Ivan.....255 S. 17th, Z3 OP
Loftus, John Edward.....1930 Chestnut, Z3 ALR
Lukens, Robert McD
Suite 1001, Medical Arts bldg., 16th and Walnut, Z3 ALR
Luongo, R. A.....2054 Locust, Z3 ALR
McCarthy, C. T.....1810 Pine, Z3 ALR
Miller, M. Valentine, 114 W Phil-Ellena (Mt. Airy), Z19 ALR
Mitchell, E. K.....710 W. Lehigh av., Z33 ALR
Mullen, Carroll R.....2025 Locust, Z3 OP
Myers, David.....1834 Pine St. ALR
Olsho, S. L.....235 S. 15th, Z2 OALR
Ornston, Darius G.....36 Carpenter Lane, Z19 ALR
Persky, Abram H.....1737 Chestnut, Z3 ALR
Podboy, August J.
Wills Hospital, 1601 Spring Garden st. ALR
Pryor, Charles A.....255 S. 17th st., Z3 ALR
Reese, Warren S.....1901 Walnut, Z3 OP
Richardson, George A.....1532 Overington, Z24 ALR
Ridpath, Robert F.....1737 Chestnut, Z3 LR
Rommel, John C.....4601 N. Broad, Z10 OP
Ronis, B. J.....7141 Elmwood av. ALR
Rudolphy, Jay Besson.....230 S. 21st, Z3 OP
Scheie, Harold G.....313 S. 17th st., Z3 OP
Schenck, Harry P.....1912 Spruce st., Z3 ALR
Seltzer, Albert Pincus.....1332 N. Franklin st., Z22 ALR
Shannon, C. E. G.....1930 Chestnut, Z3 OP
Shipman, James S.....255 S. 17th, Z3 OP
Shuster, Benjamin Harrison.....1824 Pine, Z3 ALR
Silcox, Louis Edward.....255 S. 17th St. Z3 ALR
Simkins, James J.....1737 Chestnut, Z3 ALR
Skillern, S. R., Jr.....1734 Pine, Z3 ALR
Sloane, Henry O.....1717 Pine, Z3 OP
Smith, Austin T.....1830 Spruce st., Z3 ALR
Spaeth, Edmund B.....1930 Chestnut, Z3 OP-PI S
Spencer, W. H.....1830 S. Rittenhouse sq., Z3 ALR
Stockwell, Eunice LeBaron.....2018 Pine st., Z3 OP
Sutherland, William S.....1930 Chestnut, Z3 OP
Swalm, Charles Joseph.....1330 W. Rockland, Z41 ALR
Tassman, Isaac S.....Medical Arts bldg., Z2 OP
Thompson, Wm. R.
Wills Hospital, 16th & Spring Garden sts., Z30 ALR
Towson, Charles E.....Germantown Prof. bldg., Z44 ALR
Trueman, Robert H.....2139 S. 16th st., Z45 OP
Tucker, Gabriel.....250 S. 18th, Z3 LB
Wagers, Arthur J.....1429 Spruce, Z2 ALR
Waldman, Joseph.....216 E. Gorgas Lane, Z19 OP
Walsh, Thomas J.....2059 Parrish, Z30 ALR
Washick, Frank.....501 Cottman st., Z11 ALR
Weinstein, M. A.....1530 Locust, Z2 ALR
Whelan, G. L.....2100 Walnut, Z3 ALR
Whelan, William F.....2004 Walnut, Z3 ALR
Williams, Horace J.....5908 Greene (Germantown), Z44 ALR
Winston, Julius.....1737 Chestnut st., Z3 ALR
Wolf, Lewis R.....3474 Frankford av., Z34 OP
Zacks, Myron Albert.....1737 Chestnut, Z3 ALR
Zentmayer, William.....1930 Chestnut, Z3 OP

PHOENIXVILLE

Foote, Wm. D., Capt. (M.C.),
Valley Forge General Hospital OP
McGavic, John S., Capt. (M.C.),
Valley Forge General Hospital OP
Merz, Earl H., Capt. (M.C.),
Valley Forge General Hospital OP

PITTSBURGH

Bernatz, C. F.....Park bldg., Z22 OP
Billings, Robert J.....500 Penn av., Z22 OP
Blair, W. W.....Woodland rd., Z6 OP
Boaz, Emmett D.....3710 Fifth av., Z13 ALR
Carson, W. E.....Jenkins Arcade, Z22 OP
Conway, John M.....Jenkins Arcade, Z22 ALR
Cooper, Roy C.....6929 Yorkshire rd., Z8 ALR
Curry, Glendon E.....1204 Pitt Bank bldg., Z22 OP
Day, Kenneth M.....121 University pl., Z13 ALR
De Stio, Daniel Stephen.....Highland bldg., Z6 ALR
Dunbar, John Charles.....Empire bldg., Z22 OP
Evans, Samuel D...1502 Park bldg., 355 Fifth av., Z22 OP
Fischer, N. Arthur.....Union Trust bldg., Z19 ALR
Friedman, Louis Leonard.....6078 Jenkins Arcade, Z22 ALR
Geeseman, George R., Major (M.C.),
634 Washington rd., Z16 OP
Goldberg, Sol.....8080 Jenkins Arcade Z16 OP
Gross, Julius E.....3401 Fifth av., Z13 ALR
Hamilton, Richard G.....Medical Arts bldg., Z13 ALR
Hampsey, Joseph William.....806 May bldg., Z22 ALR
Jennings, Charles W.....121 University pl., Z13 OP
Krebs, Adolph.....500 Penn av., Z22 OP
Kreiger, Alexander A.....4101 Jenkins Arcade Z22 OP
Kutscher, Charles F.....520 Medical Arts bldg., Z13 OP
Larimore, Fred Campbell.....500 Penn av., Z22 OP
Linn, J. G.....Jenkins Arcade, Z22 OP
McCaslin, Murray F.....Union Trust bldg., Z19 OP
McCollough, T. B.....121 University pl., Z13 ALR
McCready, J. Homer.....121 University pl., Z13 ALR
MacLachlan, A. A.....May bldg., Z22 ALR
Markel, J. Clyde.....806 Pitt Bank bldg., Z22 OP
Marshall, Watson.....121 University pl., Z13 ALR
Miller, A. Boyd, 1006 Prof. bldg., 429 Penn av., Z22 ALR
Moon, Seymour B.....429 Pennsylvania av., Z22 OP
Morgan, Irving Joseph.....Jenkins Arcade bldg., Z22 OP
Pachtman, Isadore.....Jenkins Arcade bldg., Z22 OP
Patterson, Ellen J.....(Retired), 504 Neville, Z13 ALR
Perrone, Joseph Addison.....Mercy Hospital, Z19 ALR
Plumer, John S.....121 University pl., Z13 OP
Ratner, Simon Harry.....3401 Fifth av., Z13 ALR
Reed, Charles L.....Jenkins Arcade, Z22 OP
Rhodes, David Henry.....Clark bldg., Z22 OP
Rimer, Frank H.....Jenkins Arcade, Z22 ALR
Rohm, Robert Franklin.....7002 Jenkins Arcade, Z22 OP
Seip, Walter R.....Professional bldg. OP
Shaffer, D. Howard.....7036 Jenkins Arcade, Z22 OP
Shepard, Warren Brundage.....Jenkins Arcade, Z22 ALR
Shuman, G. H.....351 Fifth av., Z22 OP
Simpson, John Reid.....Medical Arts bldg., Z13 ALR

PENNSYLVANIA — Continued

Taylor, M. C.....3000 Knolson av., Z26 OP
Thorpe, H. E.....Jenkins Arcade, Z22 OP
Todd, Grover Cleveland.....Jenkins Arcade, Z22 ALR
Turner, H. H.....Clark bldg., Z22 OP
Weisser, E. A.....May bldg., Z22 OP

PITTSTON
Gagion, Thomas Reed.....23 Broad OP
Gallizzi, Vincent D.....307 Dime Bank bldg. ALR

POTTSTOWN
Hancox, Cecil William.....Bahr Arcade bldg. ALR

POTTSVILLE
Cress, William J.....318 W. Market ALR

READING
Bankes, Claude W.....212 N. 6th OP
Craig, Paul C.....232 N. 5th OP
High, Isaac B.....326 N. 5th ALR
Landis, James E.....232 N. 6th ALR
Penta, John J., Major (M.C.).....237 S. 5th st. ALR
Penta, Michael J.....312 N. 5th ALR
Quereau, James V.....206 N. 5th OP
Rhode, Homer J.....220 N. 6th OP
Rhode, Solon L.....238 N. 6th OALR
Strause, Harold L.....826 N. 5th st. ALR
Wiest, Philip R., Capt. (M.C.).....1036 Franklin st. ALR
Wotring, John M.....220 N. 6th OP

ROCHESTER
Miksch, Henry Fred.....209 S. Park ALR

SCHUYLKILL HAVEN
Mengel, Sterling F. Comdr. (M.C.).....38 St. John st. OP

SCRANTON
Bishop, Frederick J.....Medical Arts bldg., Z3 ALR
Corser, J. B.....415 Mulberry, Z3 OP
Curtin, Eugene A.....506 Spruce, Z3 OALR
Jordan, James Shannon.....Medical Arts bldg., Z3 OP
Williams, M. M.....Medical Arts bldg., Z3 OP

SHENANDOAH
Monahan, James J.....31 S. Jordin ALR

SUMMIT HILL
Bonner, William Richard.....3 W. White st. OP

TAMAQUA
Houser, Ben P.....458 E. Broad St. ALR

TURTLE CREEK
Hunter, James F.....503 Penn av. ALR

UPPER DARBY
Kennedy, Patrick James.....6910 Market OP
Moore, George H.....101 Long Lane OALR
Rankin, Charles A.....Ludlow and Heather road OP

WARREN
Anderson, Edwin R.....220 Liberty OALR

WASHINGTON
McCullough, Clarence Joseph....Washington Trust bldg. OALR
McKennan, James W.....Washington Trust bldg. OP
McMurray, J. B.....Washington Trust bldg. OALR
McMurray, John S., Capt. (M.C.), 0-497934
415 E. Wheeling st. ALR

WELLSBORO
Laird, Archibald.....12 Main st. OP

WILKES-BARRE
Buckman, Lewis T.....83 S. Franklin OALR
Buckman, Samuel T.....70 S. Franklin OALR
Connole, Joseph V.....Miners Nat'l Bank bldg. OP
Marsden, W. C.....99 N. Franklin OALR
Schappert, N. Louis.....59 S. Washington OALR

WILLIAMSPORT
Decker, Philip Harold.....25 W. 3rd st., Z5 ALR

YORK
Fackler, C. L.....Country Club rd. OALR
Fisher, Lawrence Christian.....469 W. Market OP
Grove, Bruce Alexander.....426 W. Market st. OP
Klinedinst, John Fred.....238 S. George st. OPA

RHODE ISLAND

BARRINGTON
Stephens, Henry F., Lt. Comdr. (M.C.),
295 Rumstick rd. OP

PROVIDENCE
Adams, Frank M.....122 Waterman, Z6 ALR
Bolotow, Nathan A.....126 Waterman, Z6 ALR
Dimmitt, Frank W.....78 Waterman, Z6 OALR
Grossman, Herman P.....210 Angell, Z6 OP
Happ, Linley C.....199 Thayer st., Z6 ALR
Harvey, N. Darrell.....112 Waterman, Z6 OALR
McCurdy, Gordon Judson.....198 Angell, Z6 ALR
MacCardell, Frank Cameron.....193 Waterman, Z6 ALR
Messinger, H. C.....210 Angell, Z6 OP
Muncy, William M.....162 Angell, Z6 OALR
Porter, L. B.....199 Thayer, Z6 OALR
Sharp, Benjamin S., Maj. (M.C.), 245 Freeman Pkwy OALR
Winkler, Herman A.....224 Thayer, Z6 ALR

SOUTH CAROLINA

ANDERSON
Gaines, Thomas R.....Professional bldg., OP

CHARLESTON
Hanckel, Richard White, Jr.....96-A Bull st., Z16 ALR
Hope, Robert Meek.....108 Rutledge av., Z16 ALR
Smith, Josiah Edward.....60 Meeting, Z1 OALR
Townsend, John Ferrars.....85 Wentworth, Z6 OALR

COLUMBIA
Asbill, David S.....1512 Marion st., Z49 OP
Bristow, Walter J.....1517 Hampton, Z29 OALR

FLORENCE
Mobley, Marion R. ..... 125 W. Cheves st., ALR

GREENVILLE
Sanders, John Levis.....222 N. Main ALR

SOUTH CAROLINA — Continued

ORANGEBURG
Gressette, James H.....Box 2467, Z10 ALR

ROCK HILL
Macdonald, Roderick.....330 E. Main ALR

SUMTER
Walker, R. M.....201 N. Main st. ALR

SOUTH DAKOTA

ABERDEEN
Bunker, Paul Gordon.....Newberry bldg. ALR
Rudolph, Edward A.....624 Citizens bldg. OP

BROOKINGS
Kershner, C. M.....Watson Clinic OP

MITCHELL
Mabee, Oscar Judson.....Medical Arts bldg. ALR

PIERRE
Robbins, Clarence Edward.....111 S. Huron av. ALR

RAPID CITY
Newby, Harley D.....619½ Main st. ALR
Spain, Marceda L.....629½ Main st. ALR

SIOUX FALLS
Gregg, John B.....Security Nat'l Bank bldg. OALR
Keller, S. A.....303 S. Minnesota av. OALR

VERMILLION
Jordan, George T.....215 Court st. OALR

YANKTON
Hohf, Julius A.....Clinic bldg. OALR

TENNESSEE

CHATTANOOGA
Berger, Louis, Lt. (MC).....Ft. Wood Apts. OP
Hogshead, J. M.....602 Georgia av., Z3 OALR
Isbell, D.....552 McCallie av., Z3 ALR
Lassiter, Chester L.....Hamilton Nat'l Bank bldg., Z2 ALR
Lawwill, Stewart.....Medical Arts bldg., Z3 OALR
Long, Samuel Herman.....Medical Arts bldg., Z3 ALR
Steele, Willard.....721 Broad, Z2 OALR

CLARKSVILLE
Wilson, Paul Edwin.....408 Franklin OP

CLEVELAND
Ferguson, E. R.....404 Inman st. ALR

DYERSBURG
Brewer, John D.....Baird Brewer General Hospital OALR

JOHNSON CITY
Jones, U. G.....Cor. Market and Boone ALR
McKee, Thomas P.....207 E. Watauga av. OALR

KINGSPORT
Hodge, James Vernon.....105 Market ALR

KNOXVILLE
Cunningham, Henry Kelso.....Medical Arts bldg., Z01 ALR
Kincaid, J. H.....421 W. Church av., Z42 OALR
Leach, Robert S.....Medical Arts bldg., Z2 OP
Le Tellier, Forrest S.....Doctors bldg., Z30 OP
Miller, Edwin Ephron.....Medical Arts bldg., Z1 ALR
Montgomery, John L.....Box 343 OP
Potter, William W.....601 Walnut, Z30 OALR

MARYVILLE
Burchfield, George W.....309 Court ALR

MEMPHIS
Anderson, R. G.
Maj. (M.C.), Kennedy General Hospital, Z15 OP
Anthony, Daniel Harbert.....Exchange bldg., Z3 OP
Blassingame, C. B.....899 Madison av., Z3 ALR
Blue, J. B.....62 N. Main, Z3 OALR
Ellett, E. C.....Exchange bldg., Z3 OP
Evans, John Dorritte.....899 Madison Ave. Z3 ALR
Evans, S. S.....Physicians & Surgeons bldg., Z3 ALR
Harris, J. Harley..Methodist Hospital Doctors bldg., Z4 ALR
King, Charles M., Jr.....899 Madison Ave., Suite 116 OP
Klotz, Wm. F., c/o Van Court Rental Agency
222 Commerce Title bldg. ALR
Levy, Louis.....Commerce Title bldg., Z3 OALR
Lewis, Philip Meriwether.....Exchange bldg., Z3 OP
McKinney, James Wesley.....Exchange bldg., Z3 OALR
Manigan, Thomas P.....431 Patterson Z11 ALR
Minor, H. F.....Commerce Title bldg., Z3 OALR
Qualls, H. W.....1635 Exchange bldg., Z3 ALR
Roberts, John L., Comdr. (M.C.),
Naval Air Station Z15 OP
Rychener, Ralph O.....130 Madison av., Z3 OP
Sanders, Sam H.....1089 Madison av., Z3 ALR
Seligstein, Milton B.....Union Planters Bank bldg., Z3 OALR
Shea, J. J.....1018 Madison av., Z3 ALR
Simpson, W. Likely....Physicians & Surgeons bldg., Z3 OALR
Sims, James Lawrence, Capt. (M.C.),
1489 S.C.U., Kennedy General Hospital ALR
Stanford, J. B.....899 Madison av., Z3 OP
Stinson, William David.....899 Madison av., Z3 ALR

NASHVILLE
Bryan, James Leslie.....Bennie-Dillon bldg., Z3 OALR
Cullom, M. M.....Bennie-Dillon bldg., Z3 OALR
Hollabaugh, Charles F.....414 Doctors bldg., Z3 OP
Maness, Guy Milford.....119 7th av. N., Z3 ALR
Orr, Eugene.....Doctors bldg., Z3 ALR
Smith, Henry C.....Doctors bldg., Z3 OP
Sullivan, Robert E.....Doctors bldg., Z3 OP
Warner, Robert Jay.....706 Church, Z3 OP
Wilkerson, William W., Jr.....Bennie-Dillon bldg., Z3 ALR

OAK RIDGE
Bryant, Frank L.....102 Plymouth ALR

TEXAS

AMARILLO
Crume, John James.....724 Polk ALR
Duncan, Robert Austin.....Amarillo bldg. ALR
Streit, August J.....724 Polk ALR

TEXAS — Continued

AUSTIN
Hilgartner, Henry L.....202 W. 13th st. OP
Key, Samuel N.....505 Capital Nat'l Bank bldg., Z16 OALR
Robison, J. T.....Norwood bldg., Z16 ALR
Suehs, Oliver W.....120 W. 7th st. ALR

BAYTOWN
Dolph, Chancey H.....317 Main ALR

BEAUMONT
Woodward, John F., Jr.....Goodhue bldg. ALR

BIG SPRING
Malone, P. W.....811 Main ALR

CAMP SWIFT
Brown, Wilbur Max, Lt. Col. (M.C.)..Regional Hospital OP

CORPUS CHRISTI
Gill, Earl King.....416 Chaparral st. ALR

DALLAS
Barr, William T.....1327 Medical Arts bldg., Z1 ALR
Brannin, Daniel.....Medical Arts bldg., Z1 OP
Cary, E. H.....Medical Arts bldg., Z1 OALR
Cox, Kelly.....Medical Arts bldg., Z1 OP
Daniel, Ruby K.....Medical Arts bldg., Z1 OP
Darrough, L. E.....4105 Live Oak ALR
Harrington, Silas Frederick.....Medical Arts bldg., Z1 ALR
Knowles, W. Mood.....Medical Arts bldg., Z1 ALR
McCullough, Malcolm Kelley....Medical Arts bldg., Z1 OP
McLaurin, J. G.....4710 Munger av., Z4 ALR
Marchman, Oscar M. .....814 Medical Arts bldg., Z1 ALR
Marchman, Oscar M., Jr.....814 Medical Arts bldg., Z1 OP
Nelson, Leo A.....Box 28, Z1 ALR
Newton, F. H.....Medical Arts bldg., Z1 OALR
Quinn, Lester Hale .....4105 Live Oak, Z5 OP
Sellers, L. M.....1719 Pacific av., Z1 ALR
Singleton, John D.....2514 Oak Lawn, Z4 ALR
Thomas, W. Maxwell.....1511 Medical Arts bldg., Z1 OP
Wilkinson, Wallace Bond.....521 E. 10th, Z8 ALR

ELLINGTON FIELD
Kelly, Vincent J., Capt. (M.C.)....Station Hospital OALR

EL PASO
Jaffe, Benjamin, Major (M.C.),
Wm. Beaumont General Hospital OP
Schuster, Frank P.....First Nat'l Bank bldg. OALR
Schuster, S. A.....First Nat'l Bank bldg. OALR
Spearman, Maurice P.....First Nat'l Bank bldg. ALR
Vandevere, Wm. E. .....1st Nat'l Bank bldg. OALR

FORT SAM HOUSTON
McLeod, John, Major (M.C.),
Brooke General Hospital, Annex 2 OP

FORT WORTH
Eschenbrenner, John W., Jr.....306 W. Broadway, Z4 ALR
Goodman, Thomas L.....1601 Clover Lane, Z7 ALR
Gough, Roy H.....600 W. 10th, Z2 OALR
Jackson, Atras E.....Medical Arts bldg., Z2 OP
Richardson, James Joseph,
Cook Hospital and Beall Clinic, Z3 ALR
Schenck, C. P.....Medical Arts bldg., Z2 OALR

GAINSVILLE
Mead, Ernest Charles.....106½ E. California ALR

GALVESTON
McReynolds, Geo. S., Jr.....927 Strand ALR
Potter, William Bently
University of Texas Medical College OP
Sykes, Clarence Sherbourne.....2201 Market OP

GREENVILLE
Ward, James W.....2607 Lee ALR

HOUSTON
Alexander, Charles S.....Med. Arts bldg., Z2 OP
Barrett, John H. .....1304 Walker av., Z2 ALR
Bressler, J. L.....Medical Arts bldg., Z2 OP
Cody, Claude C.....1304 Walker av., Z2 ALR
Daily, Louis.....Medical Arts bldg., Z2 OALR
Daily, Ray K.....Medical Arts bldg., Z2 OALR
Dickson, J. Charles.....Medical Arts bldg., Z3 ALR
Elles, Norma B.....Niels Esperson bldg., Z2 OALR
Foster, J. H.....1304 Walker av., Z2 ALR
Goar, Everett Logan.....1300 Walker av., Z2 OP
Griffey, Edward W.....Medical Arts bldg., Z2 OALR
Haden, Henry C.....1914 Travis, Z3 OP
Janse, Hector Mason.....3717 Main, Z4 ALR
Logue, Lyle J.....1304 Walker av., Z2 ALR
Potts, Charles R.....1304 Walker av.,Z2 OP
Ralston, Wm. W.....1304 Walker av., Z2 OP
Robison, J. M.....1304 Walker av., Z2 ALR
Schultz, Jacob F.....1304 Walker av. OP
Snow, William J.....1215 Walker av. ALR
Spencer, Walter C. E.....Medical Arts bldg., Z2 OP
Stough, John Trew.....Medical Arts bldg., Z2 OP
Vanzant, T. J., Capt. (M.C.), 0-523087
2233 N. MacGregor Dr., Z4 OP

LONGVIEW
Hurst, V. Reeves.....Hurst Clinic OALR
Phillips, James Winston, Lt. (M.C.).....Hurst Clinic ALR

LUBBOCK
Hutchinson, Ben B., Capt. (M.C.),
Lubbock Memorial Hospital OP
Malone, F. B.....2609 19th ALR

MYRA
Maxwell, Hal W.....Lt. (M.C.), USNR OP

PAMPA
High, Clifton E.....Combs Worley bldg. OP

PARIS
Hunt, Thomas Ewell.....First Nat'l Bank bldg. ALR

PORT ARTHUR
Heare, Louis C.....Box 312 OP
Vaughan, Benjamin H.....Adams bldg. ALR

RANDOLPH FIELD
Trowbridge, Barnard C., Capt. (M.C.),
School of Aviation Medicine ALR

TEXAS—Continued

SAN ANGELO
Windham, Robert Edward.....234 W. Beauregard blvd. OALR

SAN ANTONIO
Atkinson, D. T.....Medical Arts bldg., Z5 OALR
Boehs, Charles John.....Medical Arts bldg., Z5 ALR
Brunner, George Harmon.....150 Magnolia Drive OP
Byrnes, Victor A., Col. (M.C.),
278 West Wildwood Drive OP
Champion, Albert N.....Medical Arts bldg., Z5 ALR
Dumas, Edward DeVan.....Medical Arts bldg., Z5 ALR
Gill, William Davis.....705 E. Houston, Z5 OALR
Matthews, John L.....414 Navarro st., Z5 OP
Muldoon, Wilfred E.....Nix Professional bldg., Z5 OP
Parrish, Robert E.....Medical Arts bldg., Z5 OALR
Russell, Daniel A.....Medical Arts bldg., Z5 ALR
Sykes, Edwin Meredith.....Nix Professional bldg., Z5 ALR

STEPHENVILLE
Terrell, Vance.....Stephenville Hospital ALR

TAYLOR
Alexander, Margaret Henrietta.....720 Talbot ALR

TEMPLE
DeBord, Bert Jr., Capt. (M.C.).....902 S. 7th st., ALR
McDavitt, Bertha Schenck Stecker ....Main and av. A ALR
McKay, Edward D.....Scott & White Clinic OP
Veirs, E. R.....Scott & White Clinic OALR
Woodson, B. Palmer.....Scott and White Hospital OALR
Woodson, W. Burbank.....601-22 Professional bldg. OALR

TEXARKANA
Fuller, T. E.....209 Pine OALR
Mann, Albert H.....2324 Glendale av. ALR
Roberts, A. Warren.....209 Pine OALR

TYLER
Vaughn, E. H.....Peoples Nat'l Bank bldg. OALR

WACO
Aynesworth, H. T.....Medical Arts bldg. OALR
Burgess, John L., Lt. Comdr. (M.C.)..2600 Austin av. ALR
Spencer, Shelby Cruthirds.....Professional bldg. OALR
Woolsey, William Jinkins.....212 N. 7th st. OP

WAXAHACHIE
Donnell, Herbert.....507 W. Main ALR

WICHITA FALLS
Nail, James B.....1300 Eighth ALR

UTAH

BRIGHAM CITY
Harris, Louis D., Capt. (M.C.),
Bushnell General Hospital OP

LOGAN
Riter, Kersey C.....The Budge Clinic, 3 N. Main ALR

OGDEN
Hetzel, C. C.....Eccles bldg. OALR
Pugmire, Ralph W.....2404 Washington bldg. OP

PROVO
Oaks, Lewis Weston.....33 E. 2nd S. OALR

SALT LAKE CITY
Allen, Wilmer L., Lt. Col. (M.C.).....1020 S. 10th E. ALR
Cleary, James A., Major (M.C.).....804 Boston bldg. ALR
Dolowitz, David A.....1152 Gilmer Drive, Z5 ALR
Le Compte, E. D.....9 Exchange place, Z1 OALR
Maw, Raymond B.....699 East South Temple, Z2 ALR
Palmer, Bascom W.....804 Boston bldg., Z1 OP
Phillips, Earl H., Major (M.C.)..1704 Harrison Ave. Z5 ALR
Rigby, Ralph G.....837 Boston bldg., Z1 ALR
Ruggeri, Charles, Jr.....1120 Boston bldg., Z1 OP
Smith, William Leroy.....Medical Arts bldg., Z1 OP
Spear, Dean.....516 Boston bldg., Z1 OP
Stauffer, F. Leaver.....52 East South Temple, Z1 ALR
White, Vivian P.....Tribune Telegram bldg., Z1 ALR

VERMONT

BARRE
Jarvis, De Forest C.....Quarry Bank bldg. ALR

BENNINGTON
Ramm, Carl H.....508 Main st. OP

BURLINGTON
Arnold, Francis J.....182 Pearl OALR
Twitchell, Emmus George.....266 Main OALR

MONTPELIER
Bertrand, George Joseph.....73 Main st. OP

RUTLAND
Marshall, George Guerin.....Gryphon bldg. OALR

ST. JOHNSBURY
Cramton, Edward Allen.....33 Main OALR

VIRGINIA

CHARLOTTESVILLE
Burton, Edwin W.....307 E. Market St. OP
Fitz-Hugh, Glassell Slaughter.....104 E. Market st. ALR
Krimsky, Joseph.....1616 Oxford rd. OALR
Woodward, Fletcher Drummond.....104 E. Market ALR

COVINGTON
Winn, Thomas Meredith.....129½ Maple av. OALR

DANVILLE
Dickerson, Wm. E.....802 Masonic Temple ALR
McGovern, Francis H.....Masonic Temple bldg. ALR

FREDERICKSBURG
Holloway, J. Minor.....1200 Prince Edward ALR

HARRISONBURG
Preston, H. Grant.....Professional bldg. ALR

LITTLE CREEK
Bell, Julius W., Lt. Comdr. (M.C.),
Amphibious Training Base Disp. ALR

LYNCHBURG
Gorman, James R.....Allied Arts bldg. ALR
Holland, John Gill.....725 Church ALR
Morrison, Frederick M.....717 Church st. OP

VIRGINIA—Continued

NEWPORT NEWS

Hankins, George Geddy.....Medical Arts bldg. **ALR**
Phillips, James Wm......Box 632 **OP**
Poindexter, Frank Wilmore.....Medical Arts bldg. **ALR**

NORFOLK

Cooley, Carl Conrad.....Medical Arts bldg., Z10 **OALR**
Diehl, James E......813 Wainwright bldg. **ALR**
White, J. Warren.....Medical Arts bldg., Z10 **OALR**

PORTSMOUTH

Shipley, J. L., Capt. (M.C.).....213 Middle st. **OALR**

PULASKI

Smith, Richard O......73 Third av. N. W. **ALR**

QUANTICO

Hooker, James F., Capt. (M.C.), USN,
Office of Post Surgeon **ALR**
Samponaro, Nicholas, Comdr. (M.C.), USNR,
U. S. Naval Hospital **ALR**

RICHMOND

Courtney, Robert H......Professional bldg., Z19 **OP**
Gatewood, E. T......Professional bldg., Z19 **ALR**
Hughes, T. E......1000 W. Grace, Z20 **ALR**
Pastore, Peter Nicholas.....5503 Riverside Drive, Z24 **ALR**
Sheppard, Louis B......Suite 301, Medical Arts bldg. **OP**
Smith, Mason, Lt. (M.C.).....3001 Monument av., Z21 **OP**
Smith, Maynard P......206 Professional bldg., Z19 **ALR**
Wallerstein, Emanuel U......Professional bldg., Z19 **ALR**
Wellford, B. R......510 Medical Arts bldg., Z19 **ALR**

ROANOKE

Gill, E. G......711 S. Jefferson, Z10 **ALR**
Hamlin, Fred Eugene.....Medical Arts bldg., Z11 **ALR**
Hatcher, Wm. F......Medical Arts bldg., Z11 **OP**
Monahan, Richard O'B......1510 3rd st., Z16 **ALR**
Stone, Harry B......Medical Arts bldg., Z11 **ALR**
Stone, Harry B., Jr......811 Medical Arts bldg., Z11 **ALR**
Williams, Mortimer H......711 Medical Arts bldg. **ALR**
Young, Charles A......409 Medical Arts bldg. **OP**

STAUNTON

Fisher, Guy Rothwell.....1 E. Beverley st. **ALR**
Watkins, J. O., Maj. (M.C.), Woodrow Wilson Gen. Hosp. **OP**

WINCHESTER

Hawthorne, Allen T......110 N. Braddock **ALR**
McGuire, H. H......105 N. Braddock **OP**
McGuire, William P......105 N. Braddock st. **OP**

WASHINGTON

BELLINGHAM

Kaiser, Robert F......1400 Iron St. **ALR**

BREMERTON

Benson, C. E......212 S. Tracy av. **OALR**

COLFAX

Henry, Robert T......Grady bldg. **OP**

ELLENSBURG

Hicks, William Wynne.....202 E. 6th st. **ALR**

EVERETT

Murphy, Albert B......Medical and Dental bldg. **ALR**
Secoy, Harry R......Central bldg. **ALR**

FORT GEORGE WRIGHT

Hagan, Cornelius E., Jr., Capt. (M.C.)
AAFCH Professional Services **ALR**

FORT LEWIS

Thompson, James P., Capt. (M.C.)..... **OP**

LONGVIEW

Barton, John F......1346 Fourteenth av. **ALR**

RICHLAND

Davis, Leo L......1509 Farrell Lane **OP**

SEATTLE

Adams, Frederick W.
Roosevelt Clinic, 1114 **Boylston av., Z22 OALR**
Bentley, Frederick.....Cobb bldg., Z1 **OP**
Chase, E. Frank.....Cobb bldg., Z1 **OALR**
Firestone, Charles.....326 Medical Dental bldg. **ALR**
Hoffman, W. F......1317 Marion, Z4 **OP**
Jensen, Carl Dana.....1315 Medical & Dental bldg. Z1 **OP**
Goss, Harold Leroy.....1305 4th Ave., Z1 **OP**
McCoy, L. L......1317 Marion, Z4 **OP**
Miller, Alvin R......Fourth and Pike bldg., Z1 **ALR**
Peden, Barton Edward.....Stimson bldg., Z1 **ALR**
Shannon, C. W......New 4th and Pike bldg., Z1 **OP**
Stillson, H......Seabord bldg., Z1 **OALR**
Tolan, John F......1115 Terry, Z5 **ALR**
Weber, Julius Albert.....Stimson bldg., Z1 **ALR**

SPOKANE

deRoetth, Andrew F......508 Old Nat'l Bank bldg. **OP**
Parsell, Louis A......Paulsen Med. and Dental bldg., Z8 **ALR**
Pohl, Robert L., Lt. Col. (M.C.).....1104 W. 21st st. **ALR**
Rott, O. M......1828 W. 1st av., Apt. C, Z9 **OALR**
Smith, Carroll L......Paulsen Med. and Dental bldg., Z8 **OALR**
Veasey, C. A., Sr......Paulsen Med. and Dental bldg. Z8 **OALR**
Veasey, C. A., Jr......Paulsen Med. and Dental bldg., Z8 **OALR**
Wilmes, M. N......960 Paulsen Medical & Dental bldg. **ALR**

TACOMA

Howe, A. W......Medical Arts bldg., Z2 **OALR**
Ludwig, William Henry.....Medical Arts bldg., Z2 **ALR**
Lundvick, Cyril V......Medical Arts bldg., Z2 **OP**
Paul, William C......Medical Arts bldg., Z2 **ALR**

VANCOUVER

Dunnavan, Floyd Leighton.....Arts bldg. **OP**

WALLA WALLA

Ralston, Frank L......220 First Nat'l Bank bldg. **OALR**
Stevens, Ralph W......302-12 Baker bldg. **OP**

WEST VIRGINIA

BECKLEY

Peter, Beverly K......Beckley Hospital **ALR**

BLUEFIELD

Blaydes, J. E......First Nat'l Bank bldg. **OP**
McGuire, John.....Peery bldg. **ALR**
St. Clair, C. T......Cor. Bland and Ramsey **ALR**

WEST VIRGINIA—Continued

CHARLESTON
Breisacher, Carl F.....432 Medical Arts bldg. Z1 OP
Chandler, Arthur C., Major (M.C.), 1562 Virginia st. E., Z11 OP
Holcombe, Virgil Eugene.....Medical Arts bldg., Z1 ALR
Lance, Verne L.....1113 Quarrier ALR
McLaughlin, Ralph S.....805 Atlas bldg. OP
Seletz, Abraham.....Medical Arts bldg., Z1 ALR

CHARLES TOWN
Barlow, Roy .....R. F. D. No. 2 ALR

CLARKSBURG
Hall, Sobisca S.....Empire Bank bldg. ALR
Thomas, Harry Vernon.....Empire Bank bldg. OP

ELKINS
Goodwin, Thomas M.....Golden Clinic ALR

FAIRMONT
Johnson, H. R.....320 Jefferson OALR
Traugh, George H.....309 Cleveland av. ALR

HUNTINGTON
Beckner, Wm. Forrest.....West Virginia bldg., Z1 ALR
Hoitash, Frederick J.....P. O. Box 1066 Z13 OP
McGehee, Melvin W.....425 11th st. ALR
Moore, J. Hallock.....1050 Fifth av., Z1 ALR
Moore, T. W.....1050 Fifth av., Z1 OP

MARTINSBURG
Alexander, Fred William, Maj. (M.C.), Newton D. Baker General Hospital ALR

MORGANTOWN
Wylie, C. B.....293 High OALR

PARKERSBURG
England, Welch M.....1009 Market st. ALR
Gilmore, Milton A.....Box 172 OP
Hartman, Eugene C.....610½ Market OALR

WELCH
Schiefelbein, Harry T.....Stevens Clinic Hospital OP
Vermillion, James S.....ALR

WHEELING
Fawcett, Ivan.....75 Twelth st. OALR
Jones, Edmund Lloyd.....Wheeling Clinic OALR
Joseph, Nime K.....40-14th st. ALR
Stewart, James K.....Wheeling Clinic ALR
Tomassene, R. A.....1144 Market OALR
Zubak, Matthew F.....704-9 Central Union bldg. OALR

WHITE SULPHUR SPRINGS
Polan, Charles M., Capt. (M.C.), 0-517873 Ashford General Hospital OP

WISCONSIN

APPLETON
Brooks, E. H.....Zuelke bldg. OALR
Rector, A. E.....Zuelke bldg. OALR

ASHLAND
Grigsby, Roll O.....100 E. Second ALR

BELOIT
Shearer, Harry Arthur.....405 E. Grand av. ALR

EAU CLAIRE
Payne, A. L.....119 S. Barstow OALR
Russell, Sidney Benteen.....Midelfart Clinic OALR
Tanner, James Wallace.....131 S. Barstow ALR

FOND DU LAC
Folsom, W. H.....11 N. Main OALR

GREEN BAY
Ford, William W.....109 East Walnut ALR
Nadeau, E. G.....Bellin bldg. OALR
Troup, Wilson J., Comdr. (M.C.).....306 Cherry st. OALR

JANESVILLE
Pember, Aubrey H.....500 W. Milwaukee OALR

KENOSHA
Ashley, T. W.....5711 Eighth av. OALR

LA CROSSE
Douglas, Frederick Alexander.....State Bank bldg. OALR
Ridout, George B.....1836 South av. ALR
Smith, D. S.....State Bank bldg. OALR

MADISON
Aageson, Carl W.....1 South Pinckney st. OP
Brindley, Benjamin I.....1013 Tumalo Trail, Z5 OP
Davis, Frederick Allison....224 W. Washington av., Z3 OP
Dimond, Waldo B.....701-710 Gay bldg. ALR
Duehr, Peter Alexander.....224 W. Washington av., Z3 OP
Harned, John W., Lt. Col. (M.C.).....Frost Woods, Z4 ALR
Neff, E. Eugene.....224 W. Washington av., Z3 OP
Nesbit, Mark E.....616 1st Nat'l Bank bldg., Z3 OP
Nesbit, Wellwood.....1 S. Pinckney, Z3 ALR
Schubert, Clarence K.....1 S. Pinckney, Z3 OP
Smith, R. B.....224 W. Washington av., Z3 ALR

MANITOWOC
Andrews, M. P.....826 S. 8th OALR

MARINETTE
May, J. V.....1703 Main OALR

MARSHFIELD
Copps, Lyman Alden.....Marshfield Clinic OALR

MILWAUKEE
Bach, Edwin Clarence.....324 E. Wisconsin av., Z2 ALR
Blankstein, Samuel S., Bankers bldg., 208 E Wisc. av., Z2 OP
Brook, Jeffrey J.....231 West Wisconsin av., Z3 ALR
Cannon, Harold J.....536 W. Wisconsin av., Z3 ALR
Carl, Evan Elsworth.....606 W. Wisconsin av., Z3 OP
Fox, Meyer S.....208 E. Wisconsin av., Z2 ALR
Grossman, Erwin E.....238 W. Wisconsin av. OP
Grove, W. E.....324 E. Wisconsin av., Z2 OALR
Haessler, F. Herbert.....Wells bldg., Z2 OP
Heeb, Harry J.....212 W. Wisconsin av., Z3 OALR
Higgins, S. G.....411 E. Mason, Z2 OALR
Hitz, John B.....411 E. Mason st., Z2 OP
Judge, Thomas Ambrose.....735 N. Water, Z2 ALR
Light, George.....709 N. 11th, Z3 ALR
McCormick, Thomas F.....Wells bldg., Z2 ALR

WISCONSIN — Continued

Martin, Hilmar George.....231 W. Wisconsin av., Z3 OP
Molsberry, Jasper Merl.....425 E. Wisconsin av., Z2 OP
Schmidt, Herbert G.....411 E. Mason, Z2 OALR
Schoofs, Orlando P.....324 E. Wisconsin av., Z2 ALR
Sproule, Ralph P.....208 E. Wisconsin av., Z3 OALR
Tolan, Thomas L.....Wells bldg., Z2 ALR
Treskow, Frank G.....411 E. Mason, Z2 ALR
Waldeck, Edward A.....238 W. Wisconsin av., Z3 OALR
Warner, Raymond C.....324 E. Wisconsin av., Z2 OP

MONROE
Kundert, Fred W.....The Monroe Clinic ALR

OSHKOSH
Ebert, Reinhold O.....64 Mt. Vernon st. OP

SHEBOYGAN
Neumann, William H.....Sheboygan Clinic OALR

STEVENS POINT
Anderson, George H.....111½ Strongs av. ALR
Dunn, Austin Gibbons.....111½ Strongs av. ALR

SUPERIOR
Myers, Elmer A.....1708 Hammond av. OALR

WAUSAU
Trumbo, James Keeley.....P. O. Box 485 ALR
Wilson, Otis M.....502 3rd st. OP

WHITEHALL
Simons, Neal S.....MacCornack Clinic ALR

WYOMING

CASPER
James, George Russell.....Wyoming Nat'l Bank bldg. OP

CHEYENNE
Newman, Erwin W.....1606 Capitol av. OP
Williams, Russell I.....422 Hynds bldg. ALR

SHERIDAN
Veach, Oscar Lloyd.....Whitney Trust bldg. OP

U. S. TERRITORIES

HAWAII

HILO
Crawford, H. E.....139 Kinoole st. OP

HONOLULU
Corboy, Phillip M.....565 Young Bldg. Z9 OP
Lynam, Patrick J.....1650 Young St. ALR
Moffat, Harold F.
The Clinic, South Hotel st. at Thomas Square OP
Pinkerton, Forrest Joy.....Young Hotel bldg., Z9 OALR
Trexler, C. W.....50 Dowsett av. ALR
Van Poole, G. McD.....Young bldg., Z9 OALR

PUERTO RICO

SAN JUAN
Fernandez, Luis J.....Box 2206, Z10 OP
Fernandez, Ricardo F.
15 Ponce de Leon av., Box 2206 Z10 OP
Font, Juan H., P. O. Box 5363,
Puerta de Tierra Station, Medical Arts bldg. ALR

UTUADO
Carrasquillo, Honorio Fernando.....P. O. Box 128 OP

CANADA

ALBERTA

CALGARY
Dowling, Harvey E., F/L R.C.A.F., 414 4th av. West OP
Miller, Meyer S., Maj. (M.C.), 206 11th av., N. E. ALR

BRITISH COLUMBIA

VANCOUVER
Boucher, R. B.....Medical-Dental bldg. OALR
Brown, W. Harold .....326 Medical-Dental bldg., OALR
Paton, Walter M.....919 Medical Arts bldg. ALR

MANITOBA

BRANDON
McDiarmid, H. Oliver.....35 Clement block OALR

WINNIPEG
Grieve, Harry G.....205 Medical Arts bldg. OALR
Macneil, Frank A.....Medical Arts bldg. ALR
Ramsey, Robert M.....320 Yale av. OP

NEW BRUNSWICK

ST. JOHN
Chipman, L. DeV.....42 Coburg OALR
Hayes, Robert T.....42 Coburg ALR

NOVA SCOTIA

HALIFAX
Schwartz, Hugh William.....183 S. Park ALR

ONTARIO

CAMP BORDEN
McLeod, Angus M., Capt. (M.C.
Camp Borden Military Hospital ALR

HAMILTON
Macfarlane, P. B.....Medical Arts bldg. OALR
Rabinowitz, Paul, Capt.....Mountain Sanitarium ALR

LONDON
McFarlane, Donald C.....380 Queens av. ALR

OTTAWA
Fraser, W. G.....Medical Arts bldg. OALR
Smart, Robert Edwin.....Medical Arts bldg. OP

PETERBOROUGH
Buchanan, Norman D.....129 Murray OALR

RIDGETOWN
Roszell, Leo H., Lt. (M.C.).....OP

ONTARIO—Continued

SARNIA

Biehn, J. Telford.....150½ N. Front st. OALR

TORONTO

Alexander, Seeyman L.....Medical Arts bldg., Z5 ALR
Atkins, John.....345 Bloor st. W. ALR
Barnes, Lancelot.....170 St. George, Z5 OP
Bochner, Maxwell K.....329 Bloor st. W. OP
Burnham, Howard Hampden.....Medical Arts bldg., Z5 ALR
Campbell, A. A.....86 Bloor st. W., Z5 ALR
Davies, T. A.....578 Sherbourne OALR
Elliot, Alfred J.....170 St. George st. OP
Goldsmith, Perry G.....Medical Arts bldg., Z5 ALR
Gollom, Joseph.....425 Bloor St. W., Z5 ALR
Henry, George Arnold.....Medical Arts bldg. Z5 ALR
Hill, C. E.....160 Bloor st W., Z5 OP
Luke, William R. F.....Medical Arts bldg., Z5 OP
McCart, Howard W. D.....170 St. George st., Z5 ALR
McCulloch, Robert J. P.....Medical Arts bldg., Z5 OALR
McEachern, Margaret Aileen.....Medical Arts bldg., Z5 ALR
McGregor, Gregor William.....170 St. George, Z5 ALR
Morgan, Alonzo Lloyd.....170 St. George, Z5 OP
Risdon, E. F.....Medical Arts bldg., Z5 ALR-PI S
Robert, Joseph X.....170 St. George, Z5 ALR
Smith, I. Ruebert.....116 College st. ALR
Snell, George C.....Medical Arts bldg., Z5 ALR
Stark, W. Berkeley.....Medical Arts bldg., Z5 ALR
Sullivan, J. A., Wing Comdr. (RCAF),
Medical Arts bldg., Z5 ALR
Vaile, Ivan Royle, ...384 Bloor st. W. ALR
Veitch, Ambert H.....170 St. George, Z5 ALR
Wishart, David Edmund Staunton.Medical Arts bldg., Z5 ALR
Wright, Walter Walker.....Medical Arts bldg., Z5 OP

WELLAND

Briant, Thomas Ernest.....28 East Main ALR

QUEBEC

MONTREAL

Ballon, David H.....1022 Medical Arts bldg., Z25 ALR
Freedman, Abraham O.....1396 St. Catherine st. W. ALR
Hodge, George E.....1414 Drummond ALR
Hutchison, Keith O.....1509 Sherbrooke st. W. ALR
Johnston, Kenneth B.....1509 Sherbrooke st. W. OP
Lapointe, Jean.....300 Carre, St. Louis ALR
Lundon, A. E., Col.....1463 Bishop st., Apt. C-3 ALR
McAuley, Albert G.....1301 Dorchester st. W., Z25 OP
McNally, William James.....Linton Apartments ALR
MacMillan, J. A.....1410 Stanley, Z2 OP
Ramsey, G. Stuart.....1496 Mountain OP
Rogers, J. T.....Medical Arts bldg. ALR
Rosenbaum J.....1396 St. Catherine st. W. OP
Tremble, George E.....1390 Sherbrooke st. W. ALR
Wright, R. Percy.....1414 Drummond st. ALR

EUROPE

ENGLAND

LONDON

Dundas-Grant, Sir James.....(Retired) England
Elliot, R. H., Lt. Col...54 Welbeck st., Cavendish sq. W.
Graves, Basil,
11 Devonshire pl., Upper Wimpole st. W., 1 OALR
Kirkpatrick, Henry, Lt. Col.....54 Welbeck st. W., 1
Lister, Sir William T.....24 Devonshire pl. W., 1
Parsons, Sir John Herbert
54 Queen Anne st., Cavendish sq. W. OP

GENERAL GOUVERNEMENT

KRAKAV

Lauber, Prof. Dr. Hans.....ul. Gertrudy 18ms OP

HOLLAND

LEIDEN

Van der Hoeve, Prof. J .....Rijnsburgerweg 6A OALR

SWITZERLAND

ZURICH

Nager, Prof. F. .....Freiestrasse 20 OALR

LATIN AMERICA

BRAZIL

SAO PAULO

Alvaro, M. E.....1151 Consolacao OP

COSTA RICA

SAN JOSE

Aguero, Alexis .....OP

MEMBERS OF THE AMERICAN ACADEMY OF OPHTHALMOLOGY AND OTOLARYNGOLOGY SERVING WITH THE ARMED FORCES OVERSEAS

Alfaro, Victor R., Major (M.C.), 0479807, Duty with Panama Canal, APO 834, c/o PM, New Orleans, La. **ALR**

Ashley, Rea Ernest, Capt. (M.C.) Navy 140, c/o F.P.O., San Francisco, Calif. **ALR**

Brown, Lester A., Capt. (M.C.), 0-514562, 229th Gen. Hosp., APO 713, c/o PM, San Francisco, Calif. **ALR**

Bullis, John A. E., Lt. (M.C.), USS Relief, c/o Fleet Post Office, San Francisco, Calif. **OALR**

Clarke, Clement C., Major (M.C.), 0480407, 369th Sta. Hosp., APO 244, c/o PM, San Francisco, Cal. **OP**

Conway, Wm. S., Capt. (M.C.), 0-497350, 27th Sta. Hosp., APO 1050, c/o PM, San Francisco, Calif. **OALR**

Cowen, Jack P., Comdr. (M.C.), USNR, U. S. Naval Hosp., Navy 10, c/o FPO, San Francisco, Calif. **OP**

Edelman, Maurice I., Lt. Comdr. (M.C.) USNR USN Fleet Hosp. 116, c/o FPO, San Francisco, Calif. **ALR**

Field, Homer Baker, Capt. (M.C.) Dis. Base 3, APO 923, c/o PM, San Francisco, Calif. **OP**

Gans, Jerome A., Capt. (M.C.), 0-535443, 279th Sta. Hospital, APO 755, c/o PM, New York, N. Y. **OP**

Harkins, William B., Lt. Comdr. (M.C.), USN, Hdqrs. F.M.F. Pacific, c/o FPO, San Francisco, Calif. **ALR**

Hinderer, Kenneth H., Major (M.C.) 166th Gen. Hosp., APO 801, c/o PM New York, N. Y. **ALR**

Hollowell, Frederick Dixon, Lt. Comdr. (M.C.), U.S. Fleet Hosp. 114, FPO, San Francisco, Calif. **ALR**

Howard, Henry Sargent, Lt. (M.C.), USNR, Fleet Hospital 114, FPO, San Francisco, Calif. **ALR**

Irgens, Edwin R., Major (M.C.) 369th Sta. Hosp., APO 244, c/o PM, San Francisco, Calif. **ALR**

Johnson, Gayle T., Major (M.C.), 0-482051, Station Hosp., APO 953, c/o PM, San Francisco, Calif. **ALR**

Kaplan, Samuel, Major (M.C.), 121st General Hospital, APO 751, c/o PM, New York, N. Y. **ALR**

Knowlton, Don S., Capt. (M.C.) Hdqrs., Office of Div. Surg., 6th Marine Div., c/o FPO, San Francisco, Calif. **ALR**

Lathbury, Edwin F., Major (M.C.), 0-1691234, 279th Sta. Hosp., APO 755, Berlin, Germany **ALR**

Leamer, Bruce V., Capt. (M.C.), USN, Force Medical Officer, Com. Air PAC, c/o FPO, San Francisco, Calif. **ALR**

Levitt, Jesse M., Capt. (M.C.), 0507618, 232nd Gen. Hosp., APO 86, c/o PM, San Francisco, Calif. **OP**

Matheson, John H., Lt. Comdr. (M.C.), USS Repose, c/o FPO, San Francisco, Calif. **OP**

Meek, Raymond E., Comdr. (M.C.), U.S.S. Bountiful (AH9), c/o FPO, San Francisco, Calif. **OP**

Mertins, Paul S., Capt. (M.C.), 233rd Gen. Hosp., APO 331, c/o PM, San Francisco, Calif. **ALR**

Meyers, Paul T., Major (M.C.), 0-1694223, 239 Gen. Hosp., APO 887, c/o PM, New York, N. Y. **ALR**

Morrison, James D., Capt. (M.C.), 0-269342, 29th Gen. Hosp., APO 331, c/o PM, San Francisco, Calif. **OP**

Page, Robert O. Major (M.C.), 97 General Hosp., APO 204, c/o PM, New York, N. Y. **ALR**

Philpott, Ivan W., Major (M.C.), 0-460285, Gen. Hosp. 29, APO 331, c/o PM, San Francisco, Calif. **ALR**

Piszkiewicz, Frank J., Major (M.C.), 61st Station Hosp., APO 782, c/o PM, New York, N. Y. **ALR**

Robertson, E. Norris, Lt. (M.C.), U.S.S. Panamint (AGC 13), FPO, San Francisco, Calif. **OP**

Shilling, Raymond L., Capt. (M.C.), 0-388970, 113th Evacuation Hosp., APO 349A, c/o PM, New York **ALR**

Simonton, Kinsey M., Major (M.C.), 248th General Hosp., APO 75, c/o PM, San Francisco, Calif. **ALR**

Simpson, Robert K., Col. (M.C.), Hdqrs. F.E.A.F., APO 925, c/o PM, San Francisco, Calif. **OP**

Statti, Louis Wm., Lt. Comdr. (M.C.), USNR, U.S. Naval Hosp. 10, c/o FPO, San Francisco, Calif. **OP**

Stone, Leslie O., Capt. (M.C.), U.S. Naval Hosp., Navy 128, FPO, San Francisco, Cal. **ALR**

Tinkess, Donald E., Lt. Col. (M.C.) 0-438653 4th Gen. Hosp., APO 1105, c/o PM, San Francisco, Calif. **OP**

Urban, Joseph T., Lt. Comdr. (M.C.), USNR, Acorn 44, FPO, San Francisco, Calif. **ALR**

Wegner, Edwin A., Jr., Capt. (M.C.), 0-500978, 120th Gen. Hosp., APO 322, c/o PM, San Francisco **ALR**

Wood, Everet H., Capt. (M.C.), 148th General Hospital, APO 244, c/o PM, San Francisco, Calif. **OP**

Wood, Maynard A., Lt. Comdr. (M.C.), USNR, FPO, Fleet Hosp. 114, San Francisco, Calif. **OP**

CANADIAN ARMY OVERSEAS

Haughton, Thomas J., Maj. RCAMC. No. 1 Canadian Gen. Hosp. **ALR**

Ireland, Percy E., Lt. Col. RCAMC. Office of D.M.S., Canadian Military Hdqrs., London England **ALR**